The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2283.—VOL. XLIX. LONDON, SATURDAY, JUNE 28, 1879. [WITH SUPPLEMENT.] PRICE ..... SIXPENCE PER ANNUM, BY POST, £1 4s

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

35 Chapel House, £1 7s 6	5 Llanidloes, offer wtd.	5 Santa Barbara, £2½.
25 Colorado, £1 13s. 9d.	10 Llanrwst, 7s. 6d.	20 St. Harmon.
10 East Van, £1 10s.	10 Red Rock, 10s.	5 Tankerville, £3.
20 Eberhardt, £3¼.	25 Morfa Du, 16s. 6d.	15 Tyn-y-Fron, 7s. 6d.
50 Frontino, £3¼.	100 Penstruthal, 4s. 9d.	35 Van Consols and Glyn
5 Frongoch, 10s.	100 Pestarena, 4s.	Amalgamated, 7s 6d
30 Herodsfoot, £3.	25 Parys Corporation,	25 W. Assheton, 18s. 9d.
25 Javali, 7s.	10s. 6d.	10 Wye Valley, 15s.
25 Leadhills, £2.	10 Richmond, £8¼.	

"*" SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.
FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

100 Almada, 8s. 3d.	15 East Pool, £9¾.	10 Mellanear, £3 13s. 9d.
50 Antioquia.	50 Frongoch, 38s. 6d.	40 New Quebrada, 46s 6d
100 Blue Tent.	30 Frontino, 45s. 6d.	60 Penstruthal, 4s. 6d.
70 Bodidris, 22s.	10 Grogwinion, £2¾.	50 Parys Corpora., 10s 6d
2 Carn Brea, £25¼.	25 Great Holway, £4¼.	150 Pestarena, 3s. 9d.
150 Chontales, 6s.	100 Glenroy, 8s. 6d.	60 Port Phillip, 9s. 6d.
40 Canada Gold.	5 Great Laxey, £16½.	5 Roman Grav., £8½.
5 Cape Copper, £28¼.	50 Hultafall.	20 Richmond, £8¼.
20 Chapel House.	25 Herodsfoot, £2¾.	10 So. Frances, £8¾.
50 Colorado, 32s. 6d.	100 Javali, 6s. 6d.	15 Tankerville, £3.
3 Dolcoath, £295¼.	40 Kapanga, 6s. 9d.	3 Van, £17¼.
75 Don Pedro, 19s. 6d.	40 Killifreth (off. wntd.)	20 Wheal Peevor, £9¼.
15 Devon Consols.	30 Leadhills, 39s.	10 Wh. Grenville, £4¼.
25 East Van, 30s.	50 Lead Era.	25 West Holway.
20 Eberhardt, £3¼.	70 Morfa Du, 17s.	20 Wye Valley, 15s.
	20 Marke Valley, 13s.	

MINES.—Many good purchases may now be made, especially in Tin and Lead Shares, some of which (now returning good dividends) are likely to have a considerable rise, besides paying exceedingly well as an investment. Shares in several SOUND PROGRESSIVE MINES may also be secured now on favourable terms, and will probably double their present value within the next few months.
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BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C.
STOCK AND SHARE DEALERS AND GENERAL MINING AGENTS,
Can recommend the purchase of Shares in the following properties:—
BRYN GLAS (Silver-Lead).
CWM BRWYNO.
RHYDALUN.

Each of which they are doing special business in, and on particularly advantageous terms.
J. and H. negociate Mining, Railway, and Tramway Shares, and Miscellaneous Securities in general.

Bankers: London and Provincial.

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"HOW TO INVEST," post free, One Shilling, Twelfth Edition, enlarged.

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Will SELL the following SHARES:—

20 East Van, £1 12s. 6d.	10 Leadhills, £2.	10 West Chiverton, £2½.
30 East Lovell (ex call), £1 5s.	40 Marke Valley, 12s. 6d.	15 West Frances, £4¼.
25 Herodsfoot, £2 12s. 6d	25 Pateley Bridge, 10s 3d	40 West Peevor, £2 15s.
50 Hultafall, £1 12s. 6d.	10 Roman Gravels, £8½.	30 Wheal Crebor, £3.
	5 South Frances, £8½.	

MESSRS. EKINS AND CO., STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, LONDON, E.C.
Bankers: Metropolitan.

MESSRS. J. TAYLOR AND CO., MINING ENGINEERS AND INSPECTORS,
56, LONDON WALL, LONDON, E.C.,
Have Agents in England, Scotland, Wales, and on the Continent.
FOR SALE, VIKNEBERG SHARES, at 30s. per share.

MR. JOHN BATTERS, STOCK AND SHARE DEALER, transacts Business in Stock Exchange and Mining Securities.
Special information to Investors in Lead Mines, also in Swedish, Canadian, and other securities. 4, AUSTINFRIARS, LONDON, E.C.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
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(Established 23 Years.)
Shares Bought and Sold at net prices. Telegrams promptly attended to.

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SHAREHOLDERS and INVESTORS desirous of PURCHASING or SELLING SHARES in COPPER, TIN, LEAD, GOLD, or SILVER MINES can do so at market prices, and obtain information regarding the same on personal application, or by letter, of—
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Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information telegraphed instantaneous from the STOCK AND SHARE MARKETS direct into the offices of—
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ALFRED E. COOKE,
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(ESTABLISHED 1853.)
STOCKS AND SHARES,
FOREIGN BONDS, TELEGRAPHS, TRAMWAYS, RAILWAYS, AND OTHER LEADING SECURITIES.

MR. JAMES STOCKER, STOCKBROKER,
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[Established 1848.]
SPECIAL BUSINESS in BRITISH and FOREIGN MINES.
BANKERS: LONDON AND WESTMINSTER.

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FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.
"THE WEEK."—A SEPARATE EDITION from that which appears in the *Mining Journal* is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.
Bankers: London and Westminster, Lothbury.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
8, DRAPER'S GARDENS, LONDON, E.C.
*** COED MAWR POOL.—This mine is one of exceptional promise, and is strongly recommended as a *bona fide* and permanent investment.
*** RUBY CONSOLIDATED.—Shares should be bought at once. A rise of 100 per cent. is morally certain during the next few months.
Bankers: The National Provincial Bank of England.

NOTICE OF REMOVAL.
MR. THOMAS THOMPSON, JUN., STOCK BROKER, has REMOVED from 1, Palmerston Buildings, Bishopsgate-street, to
16, ST. SWITHIN'S LANE, E.C.
Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.
Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.
Mr. THOMPSON'S weekly Circular may be had on application.

JOHN B. REYNOLDS, 37, WALBROOK, LONDON, E.C.
Business transacted in all kinds of Stocks and Shares at net prices—prompt cash.
Mr. R. points with satisfaction to his recommendation of WHEAL PEEVOR shares at £2 per share, and has special information respecting this mine and WEST PEEVOR. (Established Twenty Years.)
Bankers—London and South-Western Bank (Limited).

MESSRS ENDEAN AND CO., 85, GRACECHURCH STREET
LONDON, E.C., STOCK AND SHARE DEALERS.
Established in 1861.
Bankers: Barclay, Bevan, and Co.: and London and Westminster Bank, Lothbury.

WHEAL CREBOR MINE.
GREAT DISCOVERY OF COPPER.
We have had this Mine inspected by our agent. Particulars forwarded to intending purchasers on application.
We strongly recommend WHEAL CREBOR SHARES for a RAPID RISE in price, and are prepared to deal in them for cash.
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CANADA GOLD COMPANY (LIMITED).—These SHARES CANNOT FAIL shortly to take a VERY IMPORTANT POSITION, and a GREAT ADVANCE in PRICE.
For full particulars, apply to JOHN BATTERS, 4, Austinfriars, E.C.

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(Fourteen years at the Great Minera Mines),
CONSULTING MINING ENGINEER—SECRETARY AND AUDITOR—ROYALTY AND MINERAL ESTATE AGENT—SHAREDEALER.
MINES, MINERALS, AND MACHINERY BROKER,
GREENFIELD HOUSE, WREXHAM,

Specially recommends for investment and rise in price,
BRITISH SILVER-LEAD, 10 per cent. preference.
PANT-Y MWYN—PLAS DDU.
Rich courses of ore are proved, and increasing in depth.
LEAD ERA.
Inspection is earnestly desired.

MR. DAVID COWAN,
CONSULTING MINING AND MECHANICAL ENGINEER,
AND LICENSED VALUATOR,
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Investigations, Reports, and Valuations made of Coal, Iron, Slate, Pyrites, and other properties at home and abroad. Enquiries for Road and Railway Materials, Mining Plant, Pipes, Castings, &c. Plans, &c., of the most modern and economical mining appliances, fittings, and arrangements.
I have been long acquainted with the principal Coal and Ironworks in the North, with the Slate Quarries in North Wales, and for many years was Chief Engineer of the Tharsis Mines, Works, and Railway in Spain.

THE "DIFFERENTIAL" PUMPING ENGINE
(DAVEY'S PATENT),
FOR
DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION, SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL PUMPING PURPOSES.
HATHORN, DAVEY, AND CO.,
LEEDS.
HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500 horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.
See Illustrated Advertisement every alternate week.

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MINING AGENT, STOCK AND SHARE DEALER,
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MR. ALFRED THOMAS.
MINING AGENT, AND STOCK AND SHARE DEALER.
10, COLEMAN STREET, LONDON, E.C.
Just published.
"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES."
By ALFRED THOMAS, 10, Coleman street, E.C.
Will be forwarded to Investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

FOR SALE, the WHOLE or PART:—

50 Crebor, £3 6s.	20 MonyddGorddu, £1¾	50 Hultafall, £1 15s.
5 D'EresbyMoun..£31¼	40 East Caradon, 5s.	20 Hornachos, £7.
50 Morfa Du, 17s. 6d.	50 Van Consols & Glyn,	15 Richmond. £8 5s.
3 West Chiverton, £3.	10s.	

1000 Tyn-y-Fron, 7s. 6d. paid ..... } Strongly recommended for early
200 Temple, at £1 paid ..... } dividends, and a great rise.
Reliable advice and information on all English Mines.
Address, H. WILKINS, 3, Heybourne Villas, Tottenham.

TAMAR SILVER-LEAD AND FLUOR-SPAR MINING COMPANY (LIMITED).
WANTED, FIVE HUNDRED SHARES in the above, at £1 3s 6d. per share. Buyers for cash.
Messrs. ENDEAN and Co., Stock and Sharedealers, 85, Gracechurch-street, London, E.C.

SITUATION WANTED.—CAPT. F. BENNETT, who has been engaged for the last Twenty-four Years (Eighteen as Agent and Six as Manager) in the Knockmahon Mines, co. Waterford, Ireland, is just DISENGAGED, the Mine having ceased working. He is now open to an ENGAGEMENT to FILL a SIMILAR SITUATION, and he is also prepared to INSPECT and REPORT on MINES or MINING PROPERTY in Ireland, or elsewhere.
For reference, apply to WM. HAROLD, Esq., Secretary, Mining Company of Ireland, 30, Lower Ormond Quay, Dublin.
Address, Knockmahon House, Bonmahon, Piltown, Ireland.

THE OWNER of a TOWNLAND in the WEST OF IRELAND, in which MINERAL PROSPECTS are promising, is open to meet with parties desirous of ENTERING INTO MINING OPERATIONS.
Address, "No. 100," care of J. M. Norwell, Advertising Agent, St. Enoch-square, Glasgow.

MESSRS. D. C. DAVIES, F.G.S., AND SON, MINING GEOLOGISTS, ENGINEERS, AND SURVEYORS, OSWESTRY, intimate that they UNDERTAKE THE FOLLOWING DUTIES in connection with Metalliferous Mines, Collieries, Slate and other Quarries, Mining Plant and Mineral Properties generally, at home and abroad.
Preliminary Examinations and Surveys.
The Preparation of Plans for Systematic Working, with Supervision where required.
Periodical Surveys and Writing Up of Plans.
Valuation for Probate, Sale or Liquidation. The investigation of all matters pertaining to such Properties and Business.
The Analysis of Minerals. The highest references given.
MINE OFFICES,—GOBOWEN, OSWESTRY.

MR. P. C. DE SANHES AND CO., FOREIGN MINING AGENTS, have in hands FOR SALE, BY PRIVATE CONTRACT, the following MINING PROPERTIES abroad:—
ZINC (SULPHURET OF) MINE, SPAIN.
SILVER-LEAD MINE, SPAIN.
LEAD MINE, SPAIN.
IMPORTANT BED OF PHOSPHORITE, SPAIN.
WHITE MARBLE QUARRIES, ITALY.
COPPER MINE, NICKEL MINE, & ANTHRACITE COAL MINE, ITALY.
ANTHRACITE COAL MINE IN FRANCE.
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SPANISH MINES.—Advertiser is in a position to OBTAIN SOME VALUABLE GOVERNMENT GRANTS, which will PAY HANDSOME PROFITS. Parties commanding as little as £100 or £200 may apply.
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SPAIN AND PORTUGAL.
MR. J. T. JOHNSON, Assoc. Inst. C.E., F.G.S., &c., CIVIL and MINING ENGINEER, late of Chester and South Wales, having joined his Brother, Mr. T. M. JOHNSON, who for the last thirteen years has been engaged in Mining in Spain and Portugal, is prepared to INSPECT PROPERTIES and CARRY OUT GENERAL MINING AND ENGINEERING WORKS in those countries.
Address: CORREIO DO CORVO, PORTUGAL.

PIERCE S. HAMILTON, PRACTICAL GEOLOGIST, SURVEYOR, AND MINING ENGINEER AND AGENT, OFFERS HIS SERVICES in either of these capacities to those interested or desirous of investing in MINING PROPERTY in the PROVINCE OF NOVA SCOTIA or elsewhere in the DOMINION OF CANADA.
Having for years filled the administrative position of Chief Commissioner of Mines for Nova Scotia, and having both before and afterwards been himself largely engaged in Mining operations, Mr. HAMILTON has had exceptionally good opportunities of informing himself as to the variety, extent, and character of the mineral deposits of that Province, and as to the most economical and effective methods of working them.
ADDRESS—PIERCE S. HAMILTON, HALIFAX, NOVA SCOTIA, DOMINION OF CANADA.

THE CANADA LANDS AND LOAN AGENCY,
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Will afford gratuitously to correspondents all information, as to advantages of Settlement for Farmers with means to purchase Freehold Farms, or to Gentlemen and Private Families, giving Cost of Property, of Living, Educational Advantages, and Opportunities for Advancing Young Men in Professions or Commercial Pursuits. Also inducements to Skilled Mechanical Labour, Manufactories, and other Industries. When correspondence leads to settlement or business, a moderate compensation will be payable to this Agency.
MONEY INVESTED AT EIGHT PER CENT. PER ANNUM,
Payable half-yearly, on first mortgage of Good Farms, well situated and improving, worth double the amount at a forced sale. English references when required.

N.B.—Responsible parties in England and Scotland, desiring agencies there, paid by commission, will be supplied with pamphlets and maps, list, and cost of farms, town properties, mineral lands, and manufacturing and other industries now offering, on applying with references as above.

PARIS EXHIBITION, 1878.

GOLD AND SILVER MEDALS AWARDED for Steam-Engines & Boilers, also the Special Steam Pump, with Holman's Condenser & Compound Pumping Engine.

TANGYE BROTHERS AND HOLMAN,

HYDRAULIC AND GENERAL ENGINEERS

CORNWALL HOUSE, 35, QUEEN VICTORIA STREET, LONDON, E.C.,

AND BIRMINGHAM, (TANGYE BROTHERS), CORNWALL WORKS SOHO.

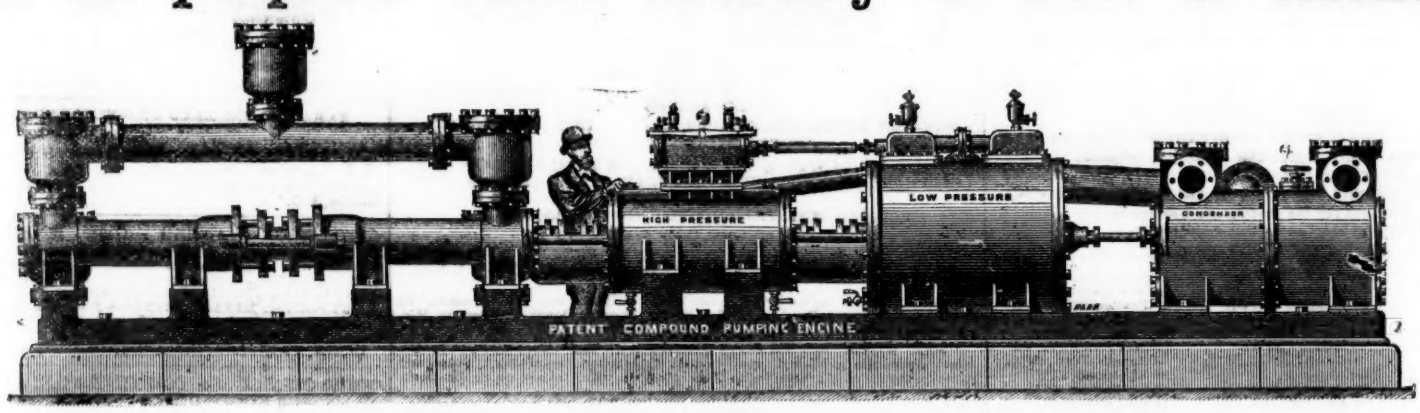
THE "SPECIAL"

DIRECT-ACTING

COMPOUND PUMPING ENGINE,

For use in Mines, Water Works, Sewage Works,

And all purposes where Economy of Fuel is essential.



THE "SPECIAL" DIRECT-ACTING COMPOUND PUMPING ENGINE, WITH AIR-PUMP CONDENSER.

After several years of successful application for all purposes to which steam-driven pumps can be applied, THE "SPECIAL" STEAM PUMP STILL MAINTAINS THE FIRST POSITION IN THE MARKET, notwithstanding that it alone—of all direct-acting pumps—has been subjected to the great variety of severe tests that must be encountered in such a period of time. Some valuable improvements have been suggested in the course of a long experience, and their adoption has rendered the apparatus at once

THE SIMPLEST AND MOST CERTAIN IN ACTION.

The illustration shows an extension of the principle of this Pump to a Compound Steam Pumping Engine, by which the economical advantages resulting from the expansion and condensation of steam are very simply and effectively obtained. The steam after leaving the high-pressure cylinder is received into and expanded in the low-pressure cylinder, and is thus used twice over before being exhausted into the condenser or atmosphere. The Engine combines simplicity, certainty of action, great compactness, fewness of parts, and consequent reduction in wear and tear.

Several thousands of the "Special" Steam Pumping Engines, with high-pressure cylinders only, are in use in British and Foreign Mines, Water Works, &c.,—and for confined situations, or where Engines of a comparatively small size only are necessary, they will still meet all requirements—but their application will be very largely increased, since it has been found practicable to embrace the important features of expanding and condensing the steam, so that increased power may be obtained, and the consumption of fuel greatly economised.

THE "SPECIAL" DIRECT-ACTING COMPOUND STEAM PUMPING ENGINE is the most simple appliance for deep mine draining and general purposes of pumping ever practically developed, and the first cost is very moderate compared with the method of raising water from great depths by a series of 40 to 50 fathom lifts. No costly engine-houses or massive foundations, no repetition of plunger lifts, ponderous connecting rods, or complication of pit-work are required, while they allow a clear shaft for hauling purposes.

SIZES AND PARTICULARS.

Diameter of High-pressure Cylinder.....In.	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder .....In.	14	14	14	18	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder .....In.	4	5	6	5	6	7	8	6	7	8	10	7	8	10	12
Length of stroke .....In.	24	24	24	24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate	3900	6100	8800	6100	8800	12.000	15,650	8,800	12,000	15,650	24,450	12,000	15,650	24,450	35,225
Diameter Suction and Delivery .....In.	3	3½	4	3½	4	5	6	4	5	6	8	5	6	8	9
Diameter High-pressure Steam Inlet.....In.	1¼	1¼	1½	1½	1½	1½	1½	2¼	2¼	2¼	2¼	2¼	2½	2½	2½
Diameter Low-pressure Steam Exhaust.....In.	1½	1½	1½	1½	1½	1½	1½	2½	2½	2½	2½	2½	2½	2½	2½
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder ..... } Non-condensing...	360	330	160	360	250	184	140	360	264	202	130	360	275	175	122
Ditto ditto ditto—with Holman's Condenser...	480	307	213	480	333	245	187	480	352	269	173	480	367	234	162
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	600	417	306	335	600	440	337	216	600	459	203	203

CONTINUED.

Diameter of High-pressure Cylinder .....In.	16	16	16	16	18	18	18	18	21	21	21	24	24	24	30	30
Ditto of Low-pressure Cylinder .....In.	28	28	28	28	32	32	32	32	36	36	36	42	42	42	52	52
Ditto of Water Cylinder .....In.	8	10	12	14	8	10	12	14	10	12	14	10	12	14	12	14
Length of stroke .....In.	36	36	36	36	48	48	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate	15,650	24,450	35,225	47,950	13,650	24,450	35,225	47,950	24,450	35,225	47,950	24,450	35,225	47,050	35,225	47,950
Diameter Suction and Delivery .....In.	6	8	9	10	6	8	9	10	8	9	10	8	9	10	9	10
Diameter High-pressure Steam Inlet.....In.	2½	2½	2½	2½	3	3	3	3	3½	3½	3½	4	4	4	5½	5½
Diameter Low-pressure Steam Exhaust.....In.	3	2	3	3	3½	3½	3½	3½	4	4	4	5	5	5	6½	6½
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder ..... } Non-condensing..	360	230	160	118	456	292	202	149	397	276	202	518	360	264	562	
Ditto ditto ditto—with Holman's Condenser...	480	307	213	154	603	389	269	198	528	363	269	691	480	352	750	
Ditto ditto ditto—with Air-pump Condenser...	600	384	267	191	750	486	337	248	660	450	337	864	600	440	937	

PRICES GIVEN ON RECEIPT OF REQUIREMENTS.

Any number of these Engines can be placed side by side, to work in conjunction or separately as desired, thereby multiplying the work of one Pump to any extent.

NORTH OF ENGLAND HOUSE ... ... TANGYE BROTHERS, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.
SOUTH WALES HOUSE... ... ... TANGYE BROTHERS AND STEEL, Tredegar Place, NEWPORT, Mon.; and Exchange Buildings, SWAN

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. CXXII.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,
Mining Engineer, Wakefield.
(Formerly Student at the Royal Bergakademie, Clausthal.)
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SECTION VI.

When a mine has been worked down to the level of the lowest adit (a drift which comes to the surface), or previously if necessary, it will be advisable to give some careful consideration as to what depth the next level shall be sunk below the adit. Since any water which escapes deeper down into the mine than the adit will have to be raised by engine power, it is advisable to preserve a water-tight channel in the adit for the water to flow off by, and consequently the workings below should be so laid out and carried on as to preserve the adit intact. For this reason it is usual to leave a safety pillar of solid ground immediately beneath the adit, which can only be worked away when the deepest limit for the workings has been reached. Sometimes, as in the case of the Westphalian coal field, measures dip at a considerable angle, and are covered directly by the chalk, which bears great quantities of water, and in order to prevent the ground breaking through and letting water into the mine, a safety pillar of coal, from 20 yards to 40 yards in thickness is left. In the case of metalliferous mines a safety pillar, 30 yards in vertical thickness, was required by law, which since 1862 has been reduced to 20 yards.

It may occasionally happen that the point at which a shaft meets with a bed of coal, or other deposit, is such that the greater part of the deposit lies to the dip of the shaft. In such a case the opening out of the mine may be effected in one of two ways—either the shaft is continued vertically downwards through the deposit into the country rock, to such a depth that a level or cross-cut driven from the shaft intersects the deposit to the dip; or an inclined road may be driven from the shaft in the deposit itself to the dip, the mineral being raised by engine power up the inclined road to the bottom of the shaft. By the second method the expense of the further sinking of the shaft and of driving cross-cuts is avoided; on the other hand, the expenses of conveyance in the mine are increased; the engines must be placed underground, and the water will have to be drawn in tubs on the roads along with the mineral, which may spoil the roads, and in any case be extremely inconvenient for the underground conveyance. In many cases the second method is adopted only as a temporary arrangement, to cover the time and expense in completing the sinking of the shaft and the driving of the opening out drift. The first method, however, is only applicable where the deposit is highly inclined, as in most metalliferous mines; and in the coal fields of Belgium, Westphalia, and France, where, on the other hand, the inclination is but slight as in most coal fields, the second arrangement is adopted; for example, in Mansfeld, Saarbrucken, and in England. The second method is the only one applicable where the dip is slight, and the deposit lies at the sea coast, and dips seaward, as at Monkwearmouth and Sunderland, where the workings are said to extend from two to three miles seaward.

Many cases occur where the old workings of a mine have to be reopened, and as in most cases the workings may be partly filled with water, and sometimes also with bad air (containing carbonic acid, or sulphuretted hydrogen, &c.), or in the case of collieries fire-damp, the reopening of such workings may be attended with considerable danger, especially as two of the above conditions often occur together. When the workings are being approached from the rise side, and the point of approach lies considerably below the water level, the foul air (in the case of coal mines fire-lamp) pent up in the upper part of the workings will be forced out first when the opening is made, and will be immediately followed by water, which will rise rapidly, and may overtake the fleeing miners. When the approach is from the dip side there will be still greater danger of drowning the miners, unless there are sufficient workings to the dip to hold all the water without roofing in the roadways along which the miner escapes to the bottom of the shaft; but in mines which contain much pyrites the water will contain sulphuretted hydrogen in solution, which will be rapidly given off under the diminished pressure. In order to protect the miners from the danger to which a sudden outburst of the water exposes them the precaution of boring is in most countries expressly ordered by law. In consequence of a fatal accident at the Gouley Colliery, near Aix-la-Chapelle, by which 63 miners were drowned, special regulations were given to the Government Inspectors with regard to the precautions and details of the arrangements for avoiding such accidents. When approaching any workings likely to contain dangerous accumulations of water a pair of roads must be driven at least 40 yards in advance of the workings, and connected at intervals of 20 yards by slits; one of the roads must be driven 10 yards in advance of the other. When the roads are driven in coal a bore-hole, or series of bore-holes, must be kept 15 ft. in advance of the face of the road; in hard rock 3 ft. to 5 ft. in advance is required. The bore-hole must not exceed 1½ in. in diameter, and a thickness of at least 3 ft. of solid coal must be left standing until all the water is tapped off. In metalliferous or highly inclined deposits, where it is doubtful whether the old workings are above or below or slightly to one side, it becomes necessary to bore holes in all directions in advance of the drift. In England it is usual to limit the width across the face of the road approaching the old workings to 8 ft., and the diameter of the bore-hole to 1½ in. At least one bore-hole must be driven forward from the centre of the road 15 ft. in advance of the face, and two flank bore-holes, one on each side, every 6 ft. forward. The Government Mining Inspection at Dortmund have issued the following regulations with regard to preserving the miners from danger by a break down of water:—1. In mines in which the workings are below the chalk marl a safety pillar of at least 10 fms. vertical thickness shall be left (untouched except by the shaft which passes through it) immediately below the plane of deposition of the chalk marl.—2. in the case of workings beneath the lowest adit, a safety pillar of similar thickness shall be left immediately below the adit; though with special permission this thickness may be diminished.—3. A safety pillar, 32 yards thick, must be left on each side of the boundary line (in all 64 yards thick) between two mines.

In order to protect the miners from being overpowered and unable to stop the efflux of the water when it has been tapped, various precautions are taken. At the St. Andreasberg Mine, the Harz, the following arrangement was used. A long cylinder, large enough to pass through, is inserted at the mouth of the bore hole, and kept in place by a cross-bar bearing against struts fixed to the side of the level. A swing valve, which opens inwards, is hinged at the front of the cylinder, so that on withdrawing the borer when the water is tapped, the water pressing on the back side of the valve closes it. In order to be able to let off the water at pleasure a T piece, or short cylindrical spout, is cast on to the cylinder. By means of a slide valve the spout can be closed or opened at pleasure, thus allowing of the water being kept back until arrangements have been made for carrying it off.

In other cases it is usual to have dam doors placed in the level, so that they can be closed against the water as soon as it has been tapped. The construction of such doors has already been discussed in the last section. The doors are reset every 20 to 30 yards, as the drift advances. At the Diepenlinchen Lead Mine, near Stolberg, the following precautionary arrangements were adopted to prevent the sudden irruption of water into the shaft from a cross-cut driven from the shaft for the purpose of tapping an accumulation of water, and at the same time to be able to let off the water at pleasure in such quantity that it could readily be dealt with by the pumps. At the junction of the cross-cut with the shaft the former is bricked, in such a manner that the exterior surface of the brickwork is pyramidal, or wedged shaped, the base being on the side from which the water comes, so that the brickwork resists better the pressure of the water, the pressure being thus exerted against the sides of the rock instead of the brick lining of the shaft. The inside dimensions of the brickwork are contracted at the end furthest from the shaft, in which a strong wooden frame is built. On the drift side of the wooden frame an iron frame is attached, provided with slides, or a guiding notch, in which a strong iron door slides up and down. The door is raised and lowered by means of a cog-wheel and rack arrangement; the horizontal axle (on the end of which the cog-wheel is attached) is moved through the intervention of bevil gearing from a vertical shaft placed in the shaft, to the upper end of which a wheel handle is attached, so that by means of this handle a person in the shaft at a height of 3 or 4 yards above the drift can raise or close the sliding door at pleasure. A small opening in the large sliding door can be opened by means of a short slide, which can be moved by hand. A small channel in the brickwork conducts the water to a point slightly below the bricked sole of the drift.

No amount of caution will prevent a risk if the exact position and form of the old workings is not known, for which it is indespensible that exact plans of all workings should be kept for reference, which has long been the case in Germany, since the Government as owner of the minerals requires that plans should be kept by the Mining Inspection for a given district of all mines under their supervision—a provision which has been adopted more lately in this country.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

BLASTING BY MEANS OF COMPRESSED AIR.*

BY MR. W. E. GARFORTH.

In endeavouring to dispense with the use of gunpowder and other explosives in mines some chemical compounds and a great number of mechanical appliances have been tried with more or less success. In many cases letters patent have been taken out for breaking down coal by hydraulic apparatus, and by wedges of peculiar construction. The first patent taken out to use highly compressed air was by Mr. Macnab, of South Wales, and this was followed, some time afterwards, by Mr. Marsh's patent. These gentlemen, therefore, may be said to be the originators of the compressed air cartridge principle. As my intention is to lay before you the result of experiments with compressed air at a pressure of 8000 lbs. and upwards per square inch, I will endeavour to explain the principle as briefly as possible.

About two years ago a machine was invented which can now be worked by two men. It is portable, and of dimensions suitable for even small mines, and by means of it air has been compressed to 946 atmospheres, or 14,200 lbs. per square inch. After the air is compressed it is conveyed through wrought-iron pipes to a cast-iron cartridge (say) 11¼ in. long, which is placed in a hole drilled in the coal, from 30 to 40 in. deep, and when the breaking strain of the cartridge (which is ascertained beforehand) is reached, it bursts and breaks down the coal. No doubt there are many members present who have air compressing engines working at 40 lbs. or 60 lbs. pressure per square inch, for the purpose of driving underground hauling and pumping engines, who will admit that in trying to compress air to 70 lbs or 80 lbs. pressure per square inch they have experienced many disappointments, owing to the air valves proving defective, loss of air through "churning," and the exhaust passages getting blocked with ice and snow. Considering these difficulties it will readily be understood the trouble that has been experienced in obtaining a pressure of 14,200 lbs. per square inch.

Although I should like to enter into a full account of the construction of the machine, and of the manner in which this enormous pressure is obtained, also as to the theory of the vapourised state of highly compressed air, yet, as this detailed information would occupy too much time, and a view and examination of the machine would be a simpler method of enabling you to understand its construction, I propose in this paper to simply inform you that the rams or plungers of the machine are comparatively a loose fit, the valves are as simple as the commonest pump clack or bucket (and can be changed in two or three minutes time), and all the parts are extremely simple in construction and not liable to derangement. With regard to the form and strength of the pipes and cartridge several obstacles had to be overcome. In the first instance the cartridges were made by Mr. Marsh of tin, afterwards of cast-iron—the latter were, however, very imperfect in construction, varying in thickness as much as 3-16th of an inch, and altogether unreliable. This was one of the reasons—though not the principal one—why the experiments Mr. Marsh conducted at Wigan were so unsuccessful. The cartridges are now made by means of a machine, and are so perfect and regular that by adding 1-32 of an inch to the internal diameter the bursting pressure can be ascertained to ·25 per cent. between one cartridge and another, and this uniformity has many times been proved by actual experiment.

At my suggestion, and by the kind permission of Mr. Rothwell, the machine was, some months ago, taken down one of the collieries at Denton. The first attempt to break down coal was a failure, owing to the cartridge not being a tight fit in the hole, which had been made by a common drill in the ordinary way, and instead of the bursting cartridge producing an immediate and sudden effect on the coal it was gradual, and simply resulted in the air around the cartridge being compressed.

I have had the experiments which were made by Mr. Marsh at Wigan fully described to me and considering the important alterations which have since been made, among others, in driving the machine (which now only requires one half the power it formerly did); the improvements in the cartridges, but especially as regards the hole being properly drilled, I can easily understand that without these vital improvements the experiments at Wigan could not be less than a failure. After the first experiment at Denton I suggested to Mr. Reuss that the hole in the coal should be drilled by a small machine, and made so true that the cartridge would fit it tightly, so that if possible not a unit of force should be lost. Without describing the numerous visits which Mr. E. Reuss and I have made down the pit to perfect this drilling machine, nor the principle that coal can be chipped much easier than ground, I may state that by constant thought on Mr. Reuss' part the drilling machine is now so perfect that it can be easily fixed ready for drilling without props and at any angle, also that it has often bored a hole in the coal 6 in. in depth in two minutes time.

After several months experimenting with the drilling machine another trial was made to burst down the coal, and was so far successful as to warrant the construction of an entirely new machine, capable of compressing air to 1323 atmospheres, or 20,000 lbs. pressure on the square inch—one that would remedy the many defects of Mr. Marsh's old machine, which had been found, during the experiments, weak in most of the working parts—and, in having only four rams, the turning was irregular, and the supply of air intermittent. This new machine has been made by Messrs. Garforth, of Dukinfield, and has already compressed air to 14,200 lbs. per square inch, or 946 atmospheres, and is capable, I fully believe, of giving 20,000 lbs. pressure per square inch. It is neither so high nor so long as the first machine, being only 4 ft. 5 in. long, 3 ft. 4 in. high, and 20 in. wide, and weighing 8 cwts. 2 qrs. 7 lbs., including draw bar, handles, and all accessories. It can be adapted to any gauge on an ordinary colliery tramway.

By the kind permission of Messrs. Marland, of Hollinwood, and Mr. Smith their manager, a trial was made at Bower Colliery, in the presence of some members of this society, under the following conditions:—The coal is known as the Bower Mine; it is 5 ft. thick, and of a very hard nature; it was undercut to a depth of 4 ft. 6 in., and by the drilling machine a perfectly true hole was cut 39½ in. in depth, and 7 ft. from the cut end of the coal. The cast iron cartridge 11¾ in. long, 3 1-16 in. diameter, 9-16 in. thick, was then put in this hole, and stemmed tight, the pipes and machine were next attached, and at 9550 lbs., or 636 atmospheres pressure per square inch, the coal was broken down. The quantity was estimated at between 5 and 6 tons.

Having now described to you some of the difficulties which have been experienced in perfecting the cartridge, the air compressing and drilling machines and also the effect of 9550 lbs. pressure on the coal, I will endeavour to place before you my ideas of how this power can be utilised. I must first state that among other points the following have been proved:—

(a.)—That 14,200 lbs. has been (and I venture to think 20,000 lbs. pressure per square inch may be), obtained.

(b.)—That a pressure of 9550 lbs. has been proved to be sufficient to break down the coal in a hard mine like that at Bower Colliery.

(c.)—When the air at these great pressures is obtained, it can be kept for hours both in the machine pipes and cartridges.

In making the following suggestion as to how this power may be utilised, I think a machine to meet the requirements of deep mining should be one that would not require much manual labour, owing to the high temperature consequent on deep and extensive workings.

What I propose is to use a vessel or small receiver made so very strong that the bursting point will be six or seven times the required pressure,—one proved beyond doubt to be perfectly safe in transit, also of such a capacity as will allow the highly compressed air to expand into the pipes and cartridges without reducing the pressure below the known bursting point of such cartridge. The air compressing machine necessary to fill this receiver with highly compressed air may be fixed on the surface, or, if preferred, at the bottom of the shaft, and worked by steam or compressed air at 40 lb. pressure per square inch in the ordinary way. These portable receivers should then be charged with air of the required pressure, sent into the various working places, attached by means of a special valve and pipes to the cartridge placed in the coal, and then by simply opening such valve the air in the receiver would rush into and explode the cartridge, at the same time breaking down the coal without much manual labour. Of course it will be understood that the receiver can either be placed at a safe distance, or to obviate the use of pipes, it can be placed near to the face of the coal, and the valve opened by other means.

If the expansion of the air necessitated a larger receiver, a small hydraulic pump could be connected to it, and by forcing water through a valve opening upwards, the water would then occupy the space of the air, and by this means any pressure which had been lost through expansion could be recovered, and if necessary increased. As water is comparatively speaking incompressible, the time taken to effect this operation would not be long, nor the labour very great, and the same water could be used over and over again. This arrangement is the one which I think will be eventually adopted.

In the same way in which machines are altered and the original idea improved upon, I feel convinced that in a short time this great force of 10,000, 15,000, or 20,000 lbs. pressure per square inch will be so utilised that we shall be able to put into the hands of the miner a power which, if gunpowder and other explosives are prohibited, will enable him to get coal with the same facilities as now, but above all without loss of life from blown out shots and explosions, and without the production of deleterious gases, which so seriously affect the ventilation of any mine.

It may appear strange to old miners to propose to place small machines in the hands of each workman, but certainly not more so than it did to engineers when men chipped or worked by hand what is now done by planing, rivetting, and other machines. When we consider the restrictions at present placed upon the use of gunpowder and other explosives in mines, and that every day the coal to be gotten lies at a greater depth, and the difficulties in getting increase more than *pro rata* with such depth, I think there can be little doubt that in a few years Government will either entirely prohibit or place more stringent restrictions on the use of gunpowder. I now propose to compare the system of breaking down coal by means of gunpowder with that of compressed air at 8000 lbs. pressure or upwards per square inch. The undermining of the coal will in both cases be about the same, also the time taken to drill the hole, provided the machine drill is used. If the arrangement of receiver as proposed in the forgoing remarks be carried out, then the time taken to fire the gunpowder or burst the cartridge by compressed air will likewise be about the same. In stemming the hole there will be a gain in favour of gunpowder of about ten minutes. but at a much greater risk.

If, instead of the portable receiver the machine had to compress the air to the required pressure, then there is a gain of 25 to 35 minutes in favour of gunpowder; but, as we are all aware, after an explosion of gunpowder, the working place if not well ventilated is so filled with powder smoke for a quarter, half, and even three-quarters of an hour, that the advantage gained in the time is quite counterbalanced. Compressed air, however, possesses advantages over gunpowder, as regards its safety, which cannot be too highly estimated.

I think everyone connected with mining will admit that the time has now arrived for some power to be found to supply the place of gunpowder if it be prohibited, to enable us to get coal as economically in the future as now. Should gunpowder and other explosives be prohibited, what is the next best means for supplying their place? I think, for the reasons I have stated, that compressed air will stand foremost as a substitute, more especially on account of its safety, and although monetary considerations may to a certain extent weigh with some people, yet no one can for a moment deny, after seeing the lavish expenditure made by colliery proprietors for the safety of their men, that safety is the main consideration both of mine owners and their managers.

[The Discussion will appear in next week's Journal.]

* Transactions of the Manchester Geological Society.

THE INSTITUTION OF MECHANICAL ENGINEERS.

A meeting of the Members of the Institution of Mechanical Engineers was held last week in the hall of the Institution of Civil Engineers, in Westminster, by permission of the council of the latter society. The meeting was opened on Thursday, the President, Mr. JOHN ROBINSON, occupying the chair. After the usual routine business had been disposed of a paper by Mr. David Greig and Mr. Max Eyth, of Leeds, "On the Use of Iron and Steel in High-pressure Boilers," was read. The paper embodied the results of an extensive series of experiments which had been carried out by the authors with the view of ascertaining the relative values of mild steel and iron as employed for high-pressure boilers of the ordinary portable or traction engine type. They also extended their enquiries in order to ascertain the advisability of changing and improving certain methods of construction usually adopted in such boilers, notably the joints. After detailing their valuable experiments and the results, the authors observe that it would be premature to take any of their conclusions as final, as practical experience must always supplement experiments before any absolutely definite results can be arrived at. The conclusions, however, point to the use of steel in boilers, and these conclusions are fully supported by the fact that two precisely similar boilers—one of iron and the other of steel—made by Messrs. John Fowler and Co. in 1868, were worked under precisely similar conditions and at the same times, they being the boilers of the two engines of a steam-ploughing tackle. They had new fire-boxes in 1874, and during the 11 years they have been at work the steel boiler never gave any trouble, and is now stated to be by far the better of the two. This paper gave rise to a long discussion of a purely technical character, and at its close a vote of thanks was accorded to the authors for what the President observed was a most valuable paper.

At the second sitting, on Friday, the first paper read was "On the Compounding of Locomotive Engines," by M. Anatole Mallet, of Paris. By compounding is meant the use of steam in a small cylinder, and, after it has done its work there, the transference of it into a larger cylinder, where it expands and does a further amount of work. This system has been for some time in use in engines other than those of the locomotive type, in which connection it has been viewed by some with mistrust. M. Mallet, however, succeeded in applying it successfully to a locomotive engine a few years since, and in 1876 three compound locomotives were built on his principle and from his designs at the Creusot Works for the Bayonne and Biarritz Railway. The author thus claims the honour of having been the first to apply the compound principle to the locomotive engine. Other locomotives have since been built on the Continent on the same principle, and existing locomotives have been compounded, the results in all cases being successful, and showing an

economy in working. At the close of the discussion which followed the reading of this paper a vote of thanks was given to the author.

The concluding paper was "On Injector Hydrants for Fire Extinction," by Mr. J. H. Greathead, of London, who first pointed out that where the nature of the water supply admitted of its direct application without the intervention of fire-engines, and where hydrants had been fixed, the best results had followed. The main requirement is a good water pressure. In the discussion which followed this paper the opinion generally expressed by those who are best qualified to offer one—our leading hydraulic engineers—was that the author had a good horse, but that he had ridden it too hard. In other words, that the injector hydrant system was valuable in special cases, such as those in which it had already been applied, where the means of obtaining the necessary high pressure were already in existence, but that its general application to the Metropolis would involve a cost about twice as great as would be required to give the necessary pressure in a direct way and to place the present water supply of London on a good footing.

The PRESIDENT asked for a vote of thanks to the author of the paper, and the proceedings concluded with the passing of another vote of thanks to the President and Council of the Institution of Civil Engineers for the use of their rooms.

Meetings of Public Companies.

NEW QUEBRADA COMPANY.

The ordinary general meeting of shareholders was held at the Cannon-street Hotel yesterday,

The Hon. T. C. BRUCE, M.P., in the chair.

The notice calling the meeting was read by Mr. N. G. BURCH, the secretary. The report of the directors was taken as read. The CHAIRMAN said he would only offer a few remarks in supplement to the information contained in the report. But he wished, before entering upon other matters, to make one observation with regard to the time of holding the meeting. The meeting should have been held at an earlier period than this, and it would have been earlier but for two reasons; one was that, owing to certain political disturbances the mail service was temporarily interrupted, and the accounts from the mine were not received in time to call the meeting for an earlier day; and the other reason was that he himself had been very unwell, and could not attend, and his colleagues were kind enough to wish that he should take the chair, and those were the reasons why the meeting was postponed for a short time. (Hear, hear.) Generally speaking, what he had to say was contained in the report, and he had not much to say in addition, except on one point, which he would mention later. At the last meeting he stated that the efforts of the directors would be devoted to two things—one to carrying on the works so as to increase the amount of ore and the value of the deposits, and the other to getting the ore forward to market as rapidly as the extension of the mining operations would enable it to be done. A third important point was explained at last meeting—the arrangement with the Bolivar Railway Company; that arrangement had, so far, worked perfectly satisfactory, and he hoped and believed that all the conventions under it would be fully carried out. Speaking generally, the works of the mine since the last meeting had been going on regularly and steadily, and the superintendent, Mr. Holman (with whom the directors had every reason to be satisfied), had carried out the instructions of the board exactly on the plan which was submitted to the shareholders last year. The mine's produce had gone on steadily. There was a time during the past season when, owing to very unusual weather, the ships for carrying the ore fell a little into arrear, and there was a short time when the dispatch of ore by ship to Europe scarcely kept pace with the production of the mines. But that was already remedied, and there was no reason to doubt that by the end of the year the amount of expected output would be fully attained, and the works would go on in a regular and steady manner. With the exception of this rather unusual circumstance the shipments had been and, he had no reason to doubt, would be carried on with perfect regularity. The quality of the ore which had been received had been quite equal to the expectations which had been formed, and which had been expressed to the shareholders at previous meetings; in fact, there had been a marked improvement in the quality of the yellow ore, and this was all the more satisfactory, as during the year they had been pushing the explorations, and it was found in so doing that in the great majority of instances they came not upon inferior ore, but upon better ore than they had when he first had the honour of joining the board. (Cheers.) As far as it went this was a satisfactory feature. He felt it entirely out of place to hold out any extravagant hopes, but he wished to state calmly and quietly what he believed to be the state of affairs, and the shareholders could draw their own conclusions from such statement. A feature of great encouragement was that in the Santa Barbara level the quality of the yellow ore had very much improved. That yellow ore had hitherto been somewhat of a dead weight, owing to its inferior quality, but, as he had said, the quality of the yellow ore had now very much improved, and, in fact, the ore from Santa Barbara level was yielding about 16 per cent. net. Up to the month of February the amount sent forward from the new stopes of the Santa Barbara level amounted to about 300 tons, and in the month of March 450 tons were taken out from this part of the mine, and the superintendent assured the directors that it was one of the best stopes he had ever seen. There was reason to believe there was a considerable mass of ore of that kind; and this was important, because in the direction in which the works were being pushed the ore was showing a higher character, and was likely to give better results in future than it had done before. (Hear, hear.) The dip of the Ruby ore was continuing northward; they had now, by means of winzes and shafts, reached 36 ft. below the Ruby saloon, still in ore, which was as deep as could be reached under the old system of working; and when their own deep level had been carried to this point they would have a greater depth of this ore, and there was no reason whatever to doubt that they would find it to a much greater extent than they had to deal with at a higher level. In the Titiara Mine, which was part of the property of the company, they had found a fourth level, and a road had been made along the face of the hill to enable the workmen to communicate with the existing mine. He could not say what the value of that was going to be, but they had found the level, and knew there was ore there; and as soon as they had tried it sufficiently there would be no difficulty in carrying on the workings extensively, and in making a communication with the place where the ore was shipped. But they wanted the deposit to be thoroughly tried before that was done. As the operations had extended, and with the view of their being carried on with greater vigour at different points, the directors had lately sent out four practical miners to assist Mr. Holman, who was a gentleman of whom the directors could not speak too highly, for he had shown the greatest zeal and intelligence. But one man could not be everywhere, and as the mine was being opened up more, it was necessary to send out more assistance. Since the report was issued Mr. Holman had sent a communication which might or might not be of great value. The directors had received two letters from him, which followed at very close dates, in which he described what occurred, and he would read these two letters, which contained all the information he had on the subject, and it was a point which might possibly be, and no doubt would be, of great importance to the company. They were as follows:—

May 21.—We carefully explored the sides of the river, and were rewarded by finding a small lode or bunch carrying a portion of yellow ore of good quality. The place was marked for further examination. To-day being a feast day, and no men working in the mine, I sent Griffin and his brother to follow up our discovery, and they have just returned with some capital stones of oxide of copper (Ruby ore). The specimens weigh about 1 cwt., and I estimate the percentage at from 25 to 30 per cent. I have very little doubt but that this discovery will eventually lead us to the San Antonio Mine, and is certainly the most important that we have made outside the Arca Mine. The distance I should say is about half a mile from the south part of the Arca Mine, and on the same side of the river. Men will be put to work at this place forthwith.

June 2.—Since my last I have placed two men to open out on the back of the lode, which we can now trace a distance of 120 ft., but the ground is so broken that I cannot now say anything as to the width, direction, or underlay. At the present moment the men are driving a small cross cut into the hill in order, if possible, to find the walls of the lode. The ore is enclosed in mica schist, with limestone close by on the western side. The specimens of ore referred to in my last letter gave 28·94 per cent. wet, and some 10 or 15 tons of similar quality can now be broken. A specimen of yellow ore mixed with oxide of copper, and taken about 100 feet from the first specimen gave 31·46 per cent. wet. This specimen was, however, found in a detached piece of rock. Specimens of the ore will go forward in the Glad-tone. Taking the course of the river, the distance from the mouth of the Santa Catalina level to the new lode is 1475 yards. A tracing showing the river between the two points goes enclosed. On this tracing is also marked the indication of a lode + (referred to by me) on the opposite side of the river, and in the direction of the Aria lode.

That was all the amount of information which the directors had on the subject, and it certainly seemed to him to show clearly that the extent of metal-bearing ground went considerably further in that direction than previously supposed, and without giving any opinion upon the immediate value of this discovery there was no doubt that it might turn out of very great importance. At any rate it was an advantage so far as it went, and the ore which had been found there would seem to indicate very considerable richness. He wished to point out further this fact; they knew they had the ore in Titiara, and they had found the ore half a mile on the other side; and although they could not state that all these lodes were continuous, at any rate they could see that in their property there were metal bearing capacities of a very unusual character. Altogether the explorations which had been made in the old workings, as well as the explorations which had been made further off, all tended to point out the same thing—that the mass of ore which they had to deal with was not only not smaller but was greater than was expected, and it was only a question of continuous, steady, and intelligent working to bring it into practical use. (Cheers.) There was a question connected with it which had in the future great importance—the treatment of the inferior ores. They had made some experiments on that subject, but there were other places where similar experiments on a much larger scale were being carried on, which, if successful, would undoubtedly give a very great value to what was at present the refuse of this mine. These experiments the directors would watch carefully; they were not in a position to spend money upon them themselves, but they were in a position to profit by the experiments made by other people, and this was what the directors proposed to do. The prospects of a practical and useful solution of that question appeared to be daily getting more clear, and he hoped before long the company would be in a position to take advantage of it. There was one difficulty which the directors encountered in the matter which caused some delay, and that was that owing to the nature of our proprietary rights there were certain possible and contingent royalities on the ores produced from the mine. The directors were now in negociation for settling that difficult point, and he had no doubt this would soon be accomplished; and as soon as this was completed the directors would be free to carry out the process in the way they considered most advantageous. The expenses had been diminished to some extent. It was as yet rather early in the year to make any forecast, but he had every confidence and belief that in any case that this year they would completely fulfil their engagements with the Bolivar Railway Company, and that the sum allowed would be sufficient to pay the expenses and the interest, to say the least of it. As the extent of the working ground was increasing, and as the facilities for working the inferior ore came into operation, there was reason to hope that before long the directors would be able to present a very different state of affairs to that which were presented in the balance-sheet now before the meeting. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.

Mr. T. W. MEATES (deputy chairman) seconded the resolution.

Mr. WARD asked how long the arrangement with the Bolivar Railway would exist, and whether any progress had been made with any attempt to bring about an amalgamation between the two companies? He congratulated the directors upon the acquisition of Mr. Holman. He was glad the board were directing their attention to the better treatment of the ore, and also the rearrangement of the royalties. He asked whether ships were chartered for a lengthened period, or simply for a voyage?

Mr. BLUNDELL thought the report very satisfactory. He asked whether the board had taken into consideration the question of utilising the timber on the property?

Mr. BOULTON referred to one or two items in the accounts, and expressed himself generally satisfied with the report.

A SHAREHOLDER suggested that reports should be published monthly, as was done in one or two other large companies. He expressed his belief that eventually the New Quebrada would be a rival to the successful Cape Copper. (Hear.)

Mr. RITCHIE thanked the board for the able manner in which the affairs of the company were being conducted. (Hear, hear.) The shareholders were kept well informed as to how matters were going on.

Another SHAREHOLDER asked whether the Chairman could give any idea when the proprietors would have a dividend?

The CHAIRMAN, in reply, said they had guaranteed the Bolivar Railway Company a minimum of 30,000*l.* for the transport of ores during the present year, but there was a prior charge of 2*l.* per ton for this company's expenses. As soon as the 30,000*l.* had been paid all the ore carried in excess of the minimum quantity was to be charged 30*s.* per ton by the Bolivar Company. The question of freights had, however, nothing to do with that company. There was no permanent arrangement as to freights, but last year they had been been reduced considerably. They were now about 1*l.* per ton, which was nearly 25 per cent. less than the amount paid in the previous year. Speaking in an individual capacity, he hoped that they would some day or other make an arrangement to amalgamate with the Bolivar Railway Company; but, in his opinion, the time had not arrived when such an arrangement should be made. The prospects of the company were such that he would not like to enter into any permanent arrangement, for he thought the time would come when they would be able to make a better bargain than they were in a position to do at the present moment (Hear, hear.) The company had still the benefit of Mr. Darlington's advice. All the reports were forwarded to him, and where necessary he made recommendations to the directors. He thought the new deposits were considerably more extensive than the extractions, and in that respect the property of the company was improving in value. As to the stone breaker, that had been paid for out of revenue, as there was no capital account to fall back upon. He hoped in future that this state of things might be remedied. He did not think it would be desirable to press the sales of timber at present, as the market for it was greatly depressed, as all who were interested in the timber trade knew. The company used a considerable quantity of it, and when the condition of the trade improves they would be able to send a large amount of timber to market. The arrangement with the Bolivar Railway Company was for this year only, but that company met them most handsomely in making the reduction. Of course, the directors would upon renewing the contract get the best terms they possibly could for the shareholders. They would endeavour to issue monthly statements in future (commencing possibly with the month of July), as had been suggested; and with regard to the probabilities of a dividend, it was at present rather early to predict what the remaining months of the year would produce in the way of profits, but if they were not able to pay a dividend this year he hoped they would be soon after.

The report and accounts were then carried unanimously.

Mr. J. C. BOLTON proposed a vote of thanks to the Chairman and directors for the very excellent work they had done during the year.—A SHAREHOLDER seconded the proposition, which was carried.

The CHAIRMAN briefly returned thanks, and said that he had given the shareholders the plain facts of the case. The directors would do their best to promote the interests of the undertaking, and to render the very important property of the company remunerative to the shareholders.

The meeting then separated.

PLACERVILLE GOLD QUARTZ COMPANY.

The second ordinary general meeting of shareholders was held at the offices of the company on Wednesday,

Mr. JOHN IRVING COURTENAY in the chair.

The SECRETARY (Mr. H. Dell) read the notice calling the meeting.

The CHAIRMAN said—Gentlemen: I intend to review our operations for the past year, or rather, I should say, for the 12 months, from May, 1878, to last month, that being the period during which the opening of the mine was actually in progress. The first operation was to unwater the mine; that accomplished, the next step was to communicate the main shaft with the old works, and make an examination of them. This confirmed the statements as to the quantity of quartz that had been mined and worked in early days by the former owners, and the ore must have paid well, so thoroughly had it been stoped out. Further explorations were made, and various necessary works were executed, as detailed by the general manager, Mr. Thomas Price, in his annual report, and the result was that a body of quartz estimated at 8000 tons was opened up. How much profit this block of quartz will give we cannot tell until we work it in our new mill. We have hitherto paid slight attention to the upper levels, for our whole energies have been bent to develope and prove the mine in depth, and that has been done with a rapidity and at a cost I think the shareholders cannot but be satisfied with. The main shaft is now down 510 ft., and we are driving a cross-cut to strike the vein in the 5th level. One of the earliest works was to secure ventilation between the 2nd and 3rd levels, and then the winze was sunk 112 ft. to connect the 3rd and 4th levels. From this winze in the month of September 130 tons of unselected ore, taking the whole width of the vein, was crushed in the mill hired for that purpose by the company, which yielded at the rate of $13 per ton. Our director, Mr. Reginald Bird, was then at the mine, and both he and Mr. Price were much fortified in their plans for the development of the mine by this thorough test of the value of the ore, especially as the vein was increasing in size and value as the winze was sunk deeper. When the main shaft reached a depth of 400 ft. the 4th level was started, and has been driven 154 ft. north, and here the quartz is good under foot for the last 124 ft., and is still good at the end of the level—so that the pay shoot has already a length of 124 ft., and continues good as far as we have driven on it. The quartz in the 4th level for about the first 30 ft. towards the south was poor; but it improved as we drove north towards the winze, and, as I have remarked, continues good in the end of the level running north—an important matter for the company, as the bulk of our property is in that direction. The vein, as anticipated some months ago, has increased in width, and will average fully 8 ft. in the first 55 ft. of the 4th level and in the stopes which are now being opened out; the other 45 ft. will average about 5 ft. in width. The winze from the 3rd level having been connected with the 4th level another 128 tons of quartz, taken from the driving of the 4th level, the stopes in same, and the winze, was crushed, which yielded $14 per ton. Thus, the opinion of Mr. Price was again confirmed as to the improvement to be expected in value of the ore as greater depth was attained, and there is now, as he remarks, every indication of a good and permanent mine. This rapid development caused the board to consider the question of procuring adequate milling power; the small hired mill had broken down owing to some weakness in the foundations, though it commenced crushing again this month. But it was always contemplated that the company should have a mill of its own as soon as the developments warranted the outlay. The small mill has answered our purpose, and has tested the value of the ore, but if in addition to the quartz developed in the 4th level and elsewhere, the 5th level (as is most likely) should also open up good quartz, the quantity of ore at our command will be very large. Seeing the season is advancing, and that an opportunity offered of purchasing a mill on favourable terms, the directors, acting upon the advice of Mr. Price, authorised him to buy a mill, and other necessary appliances, and to erect permanent reduction works without further delay. We have also sent out a set of "Elephant" stamps. The cost of milling and mining the ore has been estimated at about $6 per ton, and, looking at the size of the vein and the character of the quartz, it should be worked for this amount. The outlay upon the mine to December, 1878, was 3095*l.* 10*s.* 2*d.*, since then there has been expended to end of April 2180*l.* more, and it is expected that the small mill I have referred to will crush sufficient ore to defray the cost of opening the mine until the new mill is in running order. I think, then, you will agree with me that everything looks most favourable, and that, as far as mining experience and judgment is of avail, we are developing a valuable mine, and can fairly look for this result to be achieved in a short time. (Hear, hear.) I do not know that I need trouble you with any further remarks, but I beg to move the adoption of the statement of accounts and the report of the directors.

Mr. REGINALD BIRD, in seconding the resolution, said he was glad that what he had stated in his letter had turned out to be tolerably correct. The yield of ore was more satisfactory than when he tried it, and the only alteration was that the directors had settled to put up the mill rather sooner than was at first intended, but this had been decided on in accordance with the strong recommendation of Mr. Price, and owing to a larger development of the mine than he thought would take place when he was there. He had no doubt the 500 ft. level when under the present ore in the fourth level would break equally favourable ground, if not more so, and it was all running north into the middle of the property.

Mr. W. COWAN asked where the new mill was to be obtained from, what the cost would be, and how it was to be paid for?

The CHAIRMAN said that Mr. Price expected to be able to purchase a mill, at about 15 miles from the town of Placerville, where there was one for sale, and the directors were anxious to get it, as the cost of freight would be very much less than if they had to buy the mill in San Francisco. The directors had telegraphed to Mr. Price authorising him to buy the mill, but the board had not since received written advices, and, therefore, he could not state exactly what the cost would be. A short time since the directors made a call upon the shareholders, which would produce 3000*l.*, and he believed that would be ample to meet the cost of the mill. The mill was a 30-stamp mill, which was, perhaps, larger than the company actually required at present, but it would be obtained on favourable terms.

Mr. W. COWAN said he thought the directors had acted judiciously in purchasing a mill of somewhat larger power than was actually required at the moment, because if the mine turned out well, as there was every reason to believe would be the case, the extra milling power would be required. He presumed the mill would be in good working order, and as the mine was in a position to make a good output he thought, on the whole, the prospects of the company were favourable indeed.

Mr. R. BIRD said the mill would be put up somewhere near the mouth of the tunnel.

The resolution for adopting the report and accounts was then put and carried.

Mr. W. COWAN proposed that Mr. James Meston be elected auditor of the company, with the remuneration of the sum of 10 guineas.

Mr. COBB seconded the resolution, which was put and carried.

The CHAIRMAN moved that the thanks of the shareholders be given to Mr. Thomas Price, the general manager in California, and Mr. J. Thomas, the superintendent, for their successful management of the company's mine and business. He said that during Mr. Price's management a great deal had been done in the way of developing the mine at a low cost. Mr. Price had been successful so far, and he was sure the shareholders would accord him a cordial vote of thanks.

The resolution was put and carried.

On the motion of Mr. W. COWAN, seconded by Mr. COBB, a cordial vote of thanks was passed to the Chairman and directors, and the meeting broke up.

The following report from the general manager was submitted to the meeting:—

TO THE DIRECTORS OF THE PLACERVILLE GOLD QUARTZ COMPANY (Limited).

San Francisco, May 19.—On April 8, 1878, work was commenced upon the mine at Placerville. During the first 30 days but little work other than what may be considered preparatory was done, so that really a full year's work in the development and opening of the property only terminated on May 8 of the present year. During this period the following work has been performed:—

Opening up of the mine: This consisted of pumping out 240 feet of water from shaft, drifts, and stopes (for particulars see map of mine), cleaning out the old adit level, passing through 40 ft. of caves and retimbering same.

Connecting the Main Shaft with Old Works on Level 2: This required a drift of 22 ft. in length, and securing old stopes from further caving, pumping water out of this part of the old works, breaking down several tons of quartz to ascertain its character in the reserves above.

Retimbering 110 ft. of the main shaft, size of shaft being 10 ft. by 5 ft. in two compartments, being all well timbered with 4-in. dove-tailed boards.

A raise of 80 ft. from third to second level to secure ventilation.

Sinking winze for a distance of 112 ft to connect third and fourth level.

Running fourth level for a distance of 120 ft. and opening stopes.

Sinking of the main shaft a total depth of 192 ft.; total depth of main shaft now being 510 ft.

Fifth level station has been made, and cross-cut towards the vein in this level is well under way.

During the month of September 130 tons of ore was crushed, from the winze between third and fourth levels, which yielded the sum of $1700·22 being at the rate of $13·07 per ton.

During the month of May, 1879, a further amount of 128 tons of quartz was crushed, which yielded the sum of $1801·71, which is at the rate of $14·07 per ton. This quartz was obtained from the driving of the fourth level, widening the same, and from the winze connecting third and fourth levels.

The quartz is good under foot on the fourth level for the last 100 ft., and is still good at the end of the level. So far the pay shoot has a length of 100 ft., and prospect of continuing as we drive north. The vein in the pay shoot will average fully 8 ft. in the first 55 ft., and also in the stopes so far as opened. The other 45 ft. of the pay shoot will average about 5 ft.

The general appearance of the mine is very encouraging; the vein is getting stronger as depth is attained, giving every indication that we can expect a good and permanent mine. I have no doubt but that the fifth level will show a great improvement over the fourth; as soon as the cross-cut has penetrated the vein I will start a winze from the fourth level; this will enable me to keep you fully and reliably informed as to the developments.

It is very unfortunate indeed that the mill we hired should have broken down, and thus prevent our continuing to crush, but he will have resumed crushing again by about June 1. The delay in repairing is due to the fact that we could not, on account of the snow, get at the large wooden blocks necessary for the foundation, but I trust that hereafter we shall be able to work continuously for some time to come, or until we have erected our own mill, which according to present developments will soon be warranted: the working of the next few months will I think fully confirm this. THOMAS PRICE.

CHONTALES CONSOLIDATED MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, Gresham House, yesterday (Lord NELSON in the chair), for the purpose of confirming the resolution passed at the recent meeting for winding-up the company.

Mr. J. JAMESON TRURAN (the secretary) read the notice calling the meeting.

Since the last meeting a sufficient amount of debentures has been subscribed to render the winding-up of the company unnecessary, and this fact was notified to the shareholders by the following circular:—

"SIR,—I am instructed by my directors to inform you that since the meeting of May 30 last the amount of debentures applied for, but unallotted, has been increased by 825*l.*, making a total of 2055*l.*, in addition to the 1970*l.* already allotted. As the applications are now within 1000*l.* of the 5000*l.* originally asked for, the directors have decided not to move, on the 27th inst., the confirmation of the resolution for winding-up; and as the confirmation of this resolution is the only competent business before the meeting, the simplest course would be for the shareholders to abstain from attending on the 27th inst., by which means the resolution passed on May 30 will become abortive. From the confidence already shown them the directors believe that the remaining 1000*l.* will be speedily taken up by those who have not already subscribed, so soon as these facts are made known.—I am, Sir, your obedient servant, J. JAMESON TRURAN, Secretary.

"P.S.—I shall be glad to receive at your earliest convenience applications for the remaining 1000*l.*, to enable the directors to proceed at once to an allotment of those amounts already applied for, on the condition that the whole of the 5000*l.* is taken up."

The CHAIRMAN said he would just mention that happily the gold had been found richer than was expected, which was a great thing; it was estimated at 68*9l.*, and it had produced 739*l.* The directors had some hopes they would have better returns next mail. Owing to a considerable portion of the debentures having been subscribed for, the directors had issued the circular which had been read; since that circular had been issued further promises of debentures had come in, and it was quite within the possibility of making up the 5000*l.* asked for.

A short conversation ensued, in the course of which there was a general expression of confidence in the future of the mine, and also in the manager out there, Mr. White.

On the motion of Mr. NICHOLLS, seconded by Mr. PALMER, a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

[For remainder of Meetings, see to day's Supplement.]

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for May is 16. They have consumed 1742 tons of coal, and lifted 12·7 million tons of water 10 fms. high. The average duty of the whole is, therefore, 49,100,000 lbs. lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

	Millions
Mellanear—76 in.	49·2
West Basset—Thomas's 60 in.	52·4
West Wheal Frances—58 in.	56·7
West Tolgus—Richard's 70 in.	52·1
West Wheal Seton—Harvey's 85 in.	68·8
West Wheal Seton—Rule's 70 in.	79·1

RAILS.—During last month the exports of rails amounted to 43,908 tons. Of these 3743 tons were iron and 40,165 tons steel.

TECHNICAL EDUCATION.—The Turners Company's competition this year will be in respect of turning in wood, stone, iron, steel, brass, and gun-metal. As regards wood both hard and soft material may be used; but the work must be all hand-turning, produced in the lathe without special rest or tool apparatus. The competition in stone excludes china and pottery; but comprises natural substances, such as porphyry, granite, jasper, agate, marble, jet, alabaster, and similar materials. The qualities to be considered will be beauty of original design in shape and colour, or accuracy in copying, skill in overcoming difficulties in regard to material, and originality and novelty. In the iron and steel class the chief award will be adjudged to the best specimen of pure turning. In each instance the first prize will consist of a silver medal and the freedom of the company and of the City of London, and the Baroness Burdett-Coutts and the court of the company have contributed 100*l.*

for other prizes. The exhibition will be at the Mansion House from Oct. 7 to 9, and the Lord Mayor will present the prizes there on the last day.

THE MINERAL RESOURCES OF THE DUTCH INDIES—No. I.

Recent volumes of the official annual of the mining industry of the Nertherlands East Indies* contain much valuable information concerning the stanniferous and other mineral wealth of those regions. Mr. C. J. Van Schelle, M.E., gives an account of the occurrence of iron and copper ores near the village of Paningahan, of the west coast of Sumatra, in which he remarks that on the western shore of the lake of Singkara lies à tolerably high mountain chain, in which different large rivers take their rise, and empty their water into that lake. One of these rivers—the Paningahan—flows not far from the village of its name into the lake. Close by the mouth of the Paningahan the steep rocks which otherwise enclose the lake turn somewhat back, and a valley has been formed about 2500 metres wide, which gradually contracts, and at about 1500 metres from the mouth changes into a deep cut dale, and finally into a very narrow kloof (crevice), with steep walls, known as the kloof of Paningahan. In this dale, at about 2250 metres from the village of Paningahan, an ore body crops out on the left bank of the river a mass of ore. In former times there were often found there small pieces of native copper; at least according to the statement of Maleier, although it is difficult to believe it. The very quick flowing Paningahan has in the kloof a width of 15 to 20 metres, and lower down it is from 20 to 30 metres. At its mouth it has formed a tolerably extensive delta. The tributary streams are generally deep trenches with deep walls, and often dry; their beds are frequently filled up with rolled pebbles and washed sand, between which in the dry seasons the water runs off invisibly. The steep banks of these little rivers and the loose ground is carried down to the lake when the heavy rains come by the strong stream. In the year 1873 there were many landslips, and in some places masses were distributed to the width of 200 and 300 metres, and raised with sand and stone to the height of 50 centners or 1 metre.

Chloritic and talcose slate occurs as a scaly aggregation of chlorite or talc, quartz, felspar, and a little mica; this contains as an accessory pyrites and magnetic iron. The talc occurring with the chlorite is of the colour of the stone, sea-green or light-grey. Quartz appears in many places prominently in the foreground, and the country rock is likewise often intersected by quartz veins. The chlorite sometimes occurs in large curved plates, which commonly enclose a fragment of quartz. This rock is mostly very clearly disposed of in layers, and often shows a parallelopipedal fracture when broken tranversely. This slate is generally so coarse grained that the single atoms can still be seen with the naked eye. In certain places to the north of the village of Paningahan the slate is finer grained, and is there much altered, whilst it there assumed more the character of killas. In the vicinity of limestone there comes into the chloritic or talcose slate strong calcareous banks; this rock contains from 50 to 70 per cent. lime, and goes into a scaly lime. In the vicinity of ores the slate is often impregnated with pyrites.

Limestone occurs in the kloof of Paningahan over a tolerably great extent; it is of fine-grained crystalline structure, and white, greyish-white, or bluish-grey in colour. In the limestone are found little strings or little veins of calcareous spar, whilst there is also often seen on the walls of the crevices small needle-formed crystals, which consist of carbonate of lime, and are probably arragonite. The calcareous tufa generally varies very much in colour, composition, structure, and ingredients. It is white, full yellow, or brownish yellow in colour; sometimes it is a hard carbonate of lime with siliceous cement, at others it is slaty, and can be crushed to pieces between the fingers. Iron and copper ores occur in different places in the chloritic slate as pockets of greater or smaller extents. The principal mass is composed in great part of compounds of iron oxides, and in unprotected places there are nests of magnetic iron ore. The last is mostly very compact, and but seldom the mass is intersected with small crystalline grains, which, however, show no pure crystals. On the upper surface and on the faces of the crevices the magnetic iron goes over into a brown iron ore. The mass is black, passing into red-brown or brown. In this magnetic iron is distributed iron pyrites and copper pyrites. This copper pyrites is more gold yellow in colour than the iron pyrites, and can, moreover, be distinguished by its greater softness. These distributed minerals have often a circular composition, and thus give to the ore a ribbon-like structure. Especially in strings, and close by the quartz bands, there is found oxidised copper ores; they are mostly in the form of differently tinted green hydrous carbonate (malachite), some small quantity is also met with as blue copper lazuli. A few little pieces of this ore were tested; but it was not possible to find therein any native copper, so that it is possible that the native copper said to be found in the river came from the ore pockets mentioned. The copper holding portion forms, however, a very small part of the whole ore mass. Graphite is found in small quantities at the junction of the chloritic slate and limestone. The mineral exists on both banks of the River Paningahan, but is not considered to offer encouragement for commercial development.

An interesting geological description is given by Mr. R. D. M. Verbeek, M.E., of the district between Siboga and Sipirok, in the Tapanoli residency, in the government of the west-coast of Sumatra; but no minerals are mentioned as worthy of commercial development. This is followed by another memoir by the same engineer on the iron ore of the Goenoeng-Bessi, in the neighbourhood of Fort van der Capellen, Tanah-Datar division of the Padang Highlands residency. A fine crystalline iron glance was obtained near surface, but the deposit appeared to cut out entirely in depth. With regard to the Indrapoera coals, which form the subject of the next memoir, also by Mr. Verbeek, it is remarked that many years ago it was known that coal occurred in the neighbourhood of Indrapoera, whence specimens were sent to him by the different controllers of Indrapoera. These were of good outward appearance, and also of good quality, that the search for coal was justified; but the result was, from a technical point of view, at once unfavourable. The principal mass of the mountain where the coal occurred, that is not far from the Tapan plateau between the rivers Gambir and Pandada, two tributaries of the Tapan river, did not belong to the sedimentary but to the eruptive rocks, and these are spread over with pieces of sandstone which in certain places contain fragments of a small coal seam. Between Indrapoera and the place near Tapan where the coal is found the rock is chiefly eruptive, with here and there a small mass of carboniferous sandstone. There are two other memoirs by Mr. Verbeek on the Atar volcano and on Aneroid barometers (doosbarometer), with hypsometrical tables, but these need not here be referred to.

Next comes a report by Mr. J. A. Huguenin, M.E., on the Toboali district of the Island of Banka. The Toboali district lies between long. 106° and 106° 42' W. of Greenwich, and between 2° 36' and 3° 7' lat. It is bounded on the north by the Koba district, and for a short distance by Soengeiselan; on the west by the Soengeiselan district, the Balar river being the boundary from the village of Irat to the sea; on the south by the Banka strait and Java sea; and on the east by the straits of Gaspar and Masefield, which form a part of the Borneo sea. The superficial area of the district consists of 2010·25 square kilometres on the mainland; the Island Lepar, 423·36 square kilom.; and the remaining islands, exclusive of Liat, 40·0 square kilom. = 2473·61 square kilom. in all. Mr. Huguenin gives a list of the 48 principal hills and mountains above 50 metres high, which it is unnecessary to transcribe. As in the Soengeiselan district so in Toboali —there are extensive morasses, so that even in the dry season one-third of the district is morassy. The district is intersected by many rivers, of which the principal are the Balar, the Bangka-Oedjong, the Olim, the Njiri, the Gossong, the Kapo, and the Goemba. Some of these rivers are mere rills, scarcely a metre broad, which for a great part flow over a sandy bottom, as the Gossong from the village of Pergam to the landing place of Plei. Along the coast of this district there is not a point which can be called a good anchoring place; the soundings give in most places less than 5 fms. of water for a kilometre from the coast.

The geological formation of the district may be distributed into five periods—the first or bottom rock; then the old clay and sandstones; next the upheaved and ruptured granite, with the metamorphic action of the eruptive rocks on the clay and sandstone layers; then the newer clay and sand bed formation, with layers of sand washed down from the mountains (berggruis) and stream tin ore; and, lastly, the modern formations. Mr. Huguenin describes the several formations in their order, and remarks that kaolin, which is an altered product of granite, is found in and near valleys, sometimes in a very pure condition, and sometimes mixed with quartz and sand, as in the Irias valley, in the Soeng-fo No. 8. Tourmaline is much met with in a more or less altered condition in the worked out upland districts, as in the old ground of the Pauwhin Mine No. 17, in the Lissum valley, and further at the Njoen-sjin Mine No. 10. Quartz—white, ordinary, smoky, and red—is mostly found in fragments under the wash products of the tin ore, and also principally in the valley mines, and notably in the Jetjong Mine No. 1. Several building stones are referred to, as the granite of Cape Krassak and that of Cape Ketepan. Potters' clay is found at the mouths of the rivers, and the pottery at the mouth of the Gossong supplies an excellent building stone. There is a warm spring in the Angat branch of the Klemantan valley, which has a temperature of 45° C., and gives off carbonic acid as it issues. The spring yields 6 cubic metres of water, and, notwithstanding its high temperature, has a pleasant taste. The description of the tin-bearing valleys follows.

* "Jaarboek van het Mijnwezen, in Nederlandsch Oost-Indië." Uitgegeven op last van zijne excellentie den Minister van Kolonien. Amsterdam: C. F. Stemler.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

ARENDAL.—A holder of fully paid-up shares in this company calls our attention to a circular just issued by the chairman, in which it is proposed to borrow money under the Articles of Association, and by this means the directors can do without making any further call. Now, there are shares (4*l.*) fully paid up, and shares with 3*l.* 10s. paid, and the legitimate and proper way would be to call up the 10s., or such part of it as may be required. If money *is* borrowed it will be, of course, as our correspondent trusts, on the security of the unpaid calls, and not upon a mortgage of the property. Probably, when the directors' report is issued it will be more explanatory.

Some new ground, it appears, has been purchased by the Chairman, where there is a lode 9 ft. in width, and as that gentleman describes it, "between the wall sides of the lode the *composition* consisted of sulphur, copper, and magnetic iron, intermixed with other *minerals and stone too numerous to name*."

The mines are said to be looking well, and it is confidently expected that a cargo of regulus will leave the mine by July 1.

WHEAL CREBOR.—The inspecting day is Tuesday in each week. A shareholder can have an order from the secretary to send any agent he pleases.

"J. S." and others write to us complaining that they have purchased shares in Parys Mountain of advertisers months ago, and cannot get them delivered; consequently, they have been debarred from applying for shares in Parys Corporation to which they were entitled. No doubt, however, the directors, under such circumstances, would consider any application for new shares at 10s. should our correspondents apply to the office.

We hear at the last moment that lead has gone up in price in America.

SATURDAY, JUNE 21.—Market very quiet. Van, 17 to 18; Great Laxey, 15 to 16; Roman Gravels, 8 to 8⅛; West Chiverton, 3 to 3⅛; Herodsfoot, 2⅝ to 3; Dolcoath, 25 to 27; South Condurrow, 11⅛ to 12; South Frances, 8⅛ to 9; Peevor, 9½ to 10; West Frances, 5 to to 5⅛; Tincroft, 9 to 9⅛; Crebor, 3 to 3⅛; Devon Great Consols, 1¾ to 2; Parys Copper Corporation, 9s. to 11s.; Mellanear, 3⅛ to 3¾; Morfa Ddu, 16s. to 18s.

MONDAY, JUNE 23.—Market quiet. Crebor, West Chiverton, and Parys Copper Corporation shares in demand. Crebor, 3 to 3⅛; West Chiveston, 2¼ to 3⅛; Parys Copper Corporation, 10s. to 12s. 6d.; West Tolgus, 20 to 22½; Mellanear, 3⅛ to 3¾; Morfa Du, 16s. to 18s.; Van, 17 to 18; Roman Gravels, 8 to 8⅛; Leadhills, 1¾ to 2; Tankerville, 2¾ to 3¼; Dolcoath, 26 to 27; East Lovell, 20s. to 25s.; Grenville, 4 to 4½; Peevor, 9¼ to 10; South Frances, 8½ to 9; South Condurrow, 11½ to 12; Don Pedro, 18s. to 20s.; Cape Copper, 27 to 28; Richmond, 8 to 8¼.

TUESDAY, JUNE 24.—Market for tin shares flat. Carn Brea, 24 to 26; Dolcoath, 24 to 26; Tincroft, 8 to 9; West Basset, 3½ to 4; West Frances, 4¾ to 5⅛; Grenville, 3⅛ to 4; South Frances, 8⅛ to 9; South Condurrow, 11⅛ to 12; Peevor, 9¼ to 10¼; West Seton, 11 to 13; Crebor, 3 to 3⅛; Parys Copper Corporation, 10s. to 12s. 6d.; Marke Valley, 10s. to 15s.; Devon Great Consols, 1¾ to 2; Van, 17 to 18; Great Laxey, 15 to 16; Roman Gravels, 8 to 8¼; Glenroy Lead, 5s. to 7s. 6d.; Herodsfoot, 2⅛ to 3⅛.

WEDNESDAY, JUNE 25.—Market quiet, the dealers being busy preparing for the account. Dolcoath, 24 to 26; East Lovell, 20s. to 25s.; South Frances, 8 to 8⅛; Peevor, 9¼ to 10; Grenville, 3½ to 4; West Frances, 5 to 5⅛; Crebor, 3 to 3⅛, and firm; Parys Copper Corporation firm at 11s. to 13s.; West Chiverton, 2½ to 3; Van, 17 to 18; Roman Gravels, 8 to 8⅛; Tankerville, 2¾ to 3⅛; Herodsfoot, 2⅛ to 3; East Van, 1¼ to 1⅜; Cape Copper, 27⅛ to 28⅛; Don Pedro, 18s. to 20s.; Frontino, 2 to 2¼; Richmond, 8 to 8¼; Santa Barbara, 35s. to 40s.

THURSDAY, JUNE 26.—There has been a fair demand for Wheal Crebor and Pary's Copper Corporation shares. Crebor, 3 to 3⅛; Parys Copper Corporation, 11s. to 13s.; West Seton, 11 to 13; Mellanear, 3⅛ to 3¼; Devon Great Consols, 1¾ to 2; Dolcouth, 24 to 26; South Frances, 8 to 8⅛; Tincroft, 8 to 9; West Frances, 4½ to 5⅛; Peevor, 9¼ to 10; Grenville, 3½ to 4; Van, 16 to 17; Great Laxey, 15 to 16; Roman Gravels, 8 to 8⅛; West Chiverton, 2½ to 3; Herodsfoot, 2⅛ to 3; Tankerville, 2¼ to 3; Leadhills, 1¾ to 2; Cape Copper, 27⅛ to 28⅛; Don Pedro, 18s. to 20s.; Richmond, 8 to 8¼.

FRIDAY, JUNE 27.—Market quiet, with very little alteration in yesterday's prices, the dealers being busy with the account.

MR. WILLIAM H. H. WATSON begs to offer his advice and services to Shareholders and Intending Investors in Mines, and in the Purchase and Sale of Shares. Has Special Business in WHEAL CREBOR; and 25 shares in ARENDAL FOR SALE at £3⅜ net, £4 paid.

Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been more business doing, but prices show no decided tendency, owing to the inactive state of trade. Particulars of the continuation business done at the intervening fortnightly settlement are given below, and transactions now entered into are for settlement on July 16.

In shares of coal and iron companies on the week, Cairntable have advanced 1*l.* 5s. per share, also Omoa and Cleland 6d. Arniston, which are now quoted ex div., are also better. On the other hand, Ebbw Vale have declined 15s., Bolckow, Vaughan, A, 10s., and Marbella 2s. Benhars have been duller, with sales from 27s. down to 25s. 9d. Andrew Knowles and Sons are 13⅛ dis.; ditto (25*l.* paid), 15 dis.; Bolckow, Vaughan, A, 54½ to 55½; ditto, B, 29½ to 30; and ditto 5 per cent. (preference), 19⅛. Brown, Bayley, and Dixon, 17¼ dis.; Chapel House, 22s. 6d. to 27s. 6d.; Charles Cammel and Company, 26 dis.; Ebbw Vale, 20s. to 25s.; John Brown and Company, 31 dis.; Marbella, 23s.; Mersey Steel, 80s. dis.; Muntz's Metal, 25s. prem.; Nerbudda, 5s.; Omoa and Cleland, 8s. 6d.; Park Gate, 27 dis.; Pelsall, 10 dis.; Rotherham, Masborough, and Holmes, 6 per cent. (pref.), 50s.; Scottish Australian, 35s. to 40s.; Sheepbridge, 50⅛ dis.; Staveley, A, 70s. dis.; Vancouver, 60s.

In shares of foreign copper companies Canadian are 2s. 6d. higher, while Cape are 10s. lower, Panuicillo, Rio Tinto 7 per cent., and Yorke Peninsula (preference) each 2s. 6d., and Huntington 2s. Tharsis shares have advanced; they commenced at 23¼, including the dividend, but have gradually advanced to 23⅝, ex div., which is equal to 25*l.* 3s. with dividend. The dividend comes to 1*l.* 13s. on each 10*l.* share, and 1*l.* 3s. 1½d. on each 7*l.* share, payable free of tax on July 10. Condes of Chili 5s. Rio Tinto 5 per cent., 72⅛. Yorke Peninsula, 1s. 3d. to 2s. 9d.; ditto (preference), 8s. to 10s.

In shares of home mines Glasgow Caradon have been sold at 1*l.*, but an advance of 1s. is offered for the new shares at 11s. 6d. The sale of copper ore by this company on the 19th inst., computed 180 tons, realised 72*l.* 1s. or an average of 80s. 4d. per ton; last month's sale was 190 tons, averaging 79s. 8d., while the sales in the month of June for some years past have been—In 1878, 230 tons at 79s.; in 1877, 250 tons at 83s. 5d.; in 1876, 260 tons at 102s. 3d.; in 1875, 250 tons at 92s. 2d.; and in 1874, 240 tons at 118s. 8d. The half of this company's financial year is now ended, and the proceeds for the six months' sales, compared with those in the same period last year, show a decrease of 616*l.*; this decrease is due to 209 tons less having been sold this year, as the directors limit their sales at the present low prices, though the prices realised for what they have sold are higher than they were getting last year. Lead mines are generally flat, and Roman Gravels are expected to go lower. A report is issued that West Pateley is improving, and will prove a great prize. Carn Brea are 26; Deep Level, 42s. 6d.; Dolcoath, 26; Killifreth, 5s. to 7s. 6d. (call paid); Ladywell, 12s. 6d.; Minera, 9 to 10; North Laxey, 4s.; Penstruthal, 2s. 6d. to 5s.; Red Rock, 12s. 6d.; Rookhope, 5s.; South Caradon, 45; South Condurrow, 11¼; Tankerville, 55s. to 60s.; Tincroft, 9; Van, 17⅛; West Frances, 5; West Seton, 14; Wheal Crebor, 62s. 6d.; Wheal Grenville, 75s.; and Wheal Jane, 26s.

In shares of gold and silver mines Richmonds are 2s. 6d. higher, the week's run being 840,000. The shares have not moved more than this all the week. The Almada and Tirito meeting is called for July 4. The St. John del Rey Company's capital is 253,000*l.*, and they have a reserve fund of 63,000*l.* invested in first-class securities. The company increases its reserves to the extent of 10 per cent. of whatever they pay as dividends. A few years ago the dividend was 50 per cent., now it has declined to 25 per cent., but is not expected to go below that, and when the hanging-wall is removed, which may take a couple of years, they are likely to pay higher dividends; last year's profit was 78.4 9*l.* Argentine are at 3s. 6d. Australasian Mines, 5s. Cedar Creek, 3s. 9d. Colorado, 35s. Chontales, 5s. Don Pedro, 19s. Eberhardt, 62s. 6d. Exchequer, 2s. 6d. to 5s. Flagstaff, 2s. 6d. to 5s. Javali, 5s. to 7s. London and California, 12s. 6d. Pestarena United, 2s. 6d. to 3s. 9d.; ditto, 10 per cent. preference, 15s.; ditto, 12½ per cent preference, 20s. Pitanqui, 10s. 6d. Sierra Buttes, 37s. 6d. Tecoma, 2s. to 4s., and United Mexican, 75s. Oil shares are weak. Uphalls are 10s., and Oakbank 1s. 6d., both lower. Young's Paraffin improved to 14, but being now quoted ex dividend are lower, at 13¾.

There is more business doing in miscellaneous companies' shares. Halkyn District Drainage shares are firm, at 10, and the company is stated to be already in receipt of good royalties from Deep Level Mine, now nearly unwatered. The tunnel is being driven at the rate of 90 yards a month. Birmingham and Midland Counties Val de Travers, 10s.; Brown, Davis, and Company, 80s.; Earle's Shipbuilding, 24½ dis.; Native Guano, 3; Palmer's Shipbuilding, A, 19 dis.; and Price's Patent Candle, 8¼ to 9. In wagon companies' shares, Scottish have been done at 9⅛; prices of others are—Birmingham, 13⅛; Gloucester, 6¾; Metropolitan, 32s. 6d. prem.; Midland, 8⅛; Railway Carriage, 3⅛; and Swansea, 1¾. In chemical companies' shares, Lawes' (preference) are in request, also the ordinary, at 8 to 8¼; Langdale's, 7s.; Nitro-Phosphate, 16⅛; and Newcastle, 5⅛.

RHEIDOL VALLEY SILVER-LEAD MINING COMPANY (Limited).—Reference was made to this company last week, and the working sections of the main and north lodes have since been issued. From these many thousand tons of lead ore have been profitably returned without the aid of machinery. In order to put the mine into a proper working condition again the engineer recommends that the run in the deep adit level be secured through to the ore ground taken away. Then the rise from the deep adit to midway level will have to be commenced, there being only 2 fms. standing of whole ground. This will enable the ore ground left standing over the midway level to be worked away at 4*l.* to 5*l.* per fathom on tribute. When stoped through to No. 3 rise they will have a direct communication from surface to the deep adit level, which will thoroughly ventilate all the workings, and be in an excellent position for continuing the sinking of the mine under the deep adit level, as it is close to the position of the great body of ore from which the former returns were obtained. A very small sum will accomplish the work and establish the mine as a lasting success.

EBBW VALE STEEL, IRON, AND COAL COMPANY (Limited).—The report to be submitted at the meeting of this company on June 27 shows a loss on the year's working of 8654*l.*, and in addition a depreciation in the market value of stocks held amounting to 33,893*l.* This unfavourable result is due to the depression of trade, and to the explosion at the Abercarne Colliery. The final instalment of the first mortgage became due on March 15 last, and the directors managed to pay one-half, thus leaving 50,000*l.* due. The directors desire to pay off this sum, and a balance of 20,000*l.* due under the second mortgage, so as to make the debenture bonds the first charge upon the property. The shareholders are, therefore, desired to furnish these funds, or a call on the shares will be necessary.

On contango-day (Tuesday) the following were the rates of continuation current:—Contangos: 1d. on Benhar Coal, 1d. on Glasgow Caradon Mine, 3d. on Glasgow Port Washington, 1d. on Huntington Copper and Sulphur, 3d. on Richmond, 1d. on Oakbank Oil, and 6d. on Uphall Oil.—Backwardations: Even, 7⅛d. on Tharsis Sulphur and Copper, 3d., even on Young's Paraffin. On comparing the making-up prices of the under-mentioned shares fixed to-day with those of the same shares at last settlement, the variations thus shown to have occurred in the prices during the past account are:—Tharsis have advanced 1*l.* 12s. 6*d.* per share, ditto (new) 1*l.* 2s. 6d, Uphall Oil 8s. 6d., Richmond and Young's Paraffin each 5s, Glasgow Port Washington and Oakbank Oil each 2s. 6d., and Huntington 6d.; on the other hand, Broxburn Oil have declined 1*l.* per share, Marbella 4s., and Benhar 2s.; the remainder are unaltered—Glasgow Caradon, Monkland, and Rio Tinto shares.

HUNTINGTON COPPER AND SULPHUR COMPANY (Limited).—At the eighth general meeting of this company on Wednesday the Chairman said the working of such a business as they had just now could only end in loss considering the low price of copper. They looked forward to the time when everything would be settled with parties indebted to the company, and they might with reduced capital and sufficient funds in their hands be able to conduct the business on a limited scale for the shareholders' benefit. One little encouragement had occurred, and that was a protective tariff of 10*l.* per ton on pure copper entering Canada. When the time came round the directors would avail themselves of this duty by selling as much as possible in Canada, though that market could not take nearly as much as they could produce. Referring to the arrangement with the late directors, he thought it a very just one, and ought to be satisfactory to the shareholders. With regard to Mr. Huntington, who is the Postmaster General of Canada, he thought he was the greatest prize they had in Canada. The company's claim against him was 150,000*l.*, and the directors would not rest satisfied until they had brought him to book. At the same time they were always ready to consider any reasonable proposals he might have to make.

There were two other directors with whom the company had not yet settled, and the directors would institute proceedings against them if they did not arrange. The wages paid to the officials are $60 a month to Capt. Whyte and 400*l.* a year to Capt. Thomson, with free house and fire, as is usual in Canada. It had been discovered that the wet or Henderson process must be abandoned, and a number of very important tests and experiments had been made with regard to the smelting and refining of copper, which would yet turn out to the advantage of the company. It was far better not to work the mines at present, as the loss would be greater than the salaries of the officials. A motion was adopted authorising the directors to lend the funds of the company, on debentures or mortgages of municipal or incorporated companies. They had a considerable quantity of copper at the mine which could be turned into cash at once, but they thought it would be better to allow it to lie for a better price, as they could only get 2 per cent. for the proceeds in the banks just now. One of the directors said in reference to the value of their shares, that the present market price of 18s. was very absurd. They had a total of assets of 35,800*l.*, and this divided among the 16,000 shares would make them worth 2*l.* 4s. 9d., exclusive entirely of any prospective profit they might make, and exclusive also of the very large amount they expected to receive from Mr. Huntington.

J. GRANT MACLEAN, Stock and Share Broker.
Post Office Buildings, Stirling, June 26.

STEEL.—As a result of the cheapening of steel through recent improvements in the manufacture, it has been decided that the Forth Bridge, which is said to be a work of unequalled magnitude, shall be constructed entirely of steel, and not of iron, as was originally intended.—Some experiments have taken place at Spezzia with the 100-ton Armstrong gun, for the purpose of testing steel armour plating and the respective merits of various projectiles. It is said the general conviction is that the experiments fully proved the utter inefficiency of steel plates for defensive purposes.

GENERAL MARKETS.—The continuance of bad weather and prospects of unfavourable dividends make English railways flat. There has been a pretty general fall all round, Brighton, A, South Eastern, A, Caledonian, North British, and North-Eastern are nearly all about 2 per cent. lower for the week. Great Eastern keep tolerably steady, and, if anything, show a small rise; the traffic return this week was very satisfactory. In the foreign market Egyptian stocks have fluctuated a good deal; in the early part of the week the Unified, after having been 51, were down to 49, on the refusal of the Khedive to abdicate, but this morning, however, they keep steady at about 50, and the Preference at about 73¾. Turkish stocks are rather firmer, and I think will go a little better; the Tribute Loans are much higher. Mexican have been down again to 9¼; this, however, was caused chiefly by the failure of a large operator in them, but to day they have recovered to 10. Other foreign stocks do not show much change. In mines Wheal Crebors have still been the chief attraction, and shares, after reaching 3⅛, and receding to 2¼, 3, leave off about 3. Parys Corporation have been in demand.—W. H. H. WATSON: 1, *St. Michael's-alley, Cornhill, June 27.*

NEW ENGINES.—Notwithstanding the low prices of mineral, several engines are being erected, or on the eve of being so, in various parts of the county. Among these are a 50 in. cylinder pumping-engine at West Peevor, an 80 in. pumping engine at Wheal Basset, a 60 in. pumping engine at New Cathedral, a 36 in. winding-engine at South Frances; while from West Gorland the 24 in. winding-engine is being removed to a clay sett near St. Austell.—The 66 in. cylinder pumping engine recently at Penhale and Lomax, Perranzabuloe, which was purchased from Messrs. F. W. Michell and Co. by Capt. Nicholls for Violet Seton mine, has been re erected and satisfactorily set to work within the last few days. This mine adjoins West Seton, and the lodes running through the sett are those which proved so rich in Wheal Seton and West Seton a few years ago. The prospects are said to be exceedingly good.—*West Briton.*

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 18	Glogfawr	100	£ 9 13 0	Panther Lead Co.
—	ditto	50	9 10 6	ditto
—	Cwmystwith	45	8 1 0	ditto
—	East Darren	45	11 3 0	Weston and Son.
—	Goginan	24	11 10 0	ditto
26	Van	350	9 5 6	Walker, Parker, and Co.
—	ditto	50	9 11 6	Adam Eyton.
—	Tankerville	80	8 6 6	Walker, Parker, and Co.
—	ditto	25	7 15 0	G. Burr.
27	South Darren	50	13 13 0	Goodhart and Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 26	Van	75	£ 1 19 0	Kenrick and Son.
—	ditto	75	1 18 0	ditto

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE COLUMBIA CHEMICAL FACTORY, MANURE AND PHOSPHATE WORKS (Limited).—Capital 200,000*l.*, in shares of 10*l.* To purchase certain chemical works and phosphate mines, and to carry on and extend these works and mines. The subscribers (who take one share, each) are—F. J. Lightfoot, Mulheim; W. Brett, Esher; R. Hewitt Esher; A. M. Wigram, Clerkenwell; J. B. Menzies, Windsor; W. R. Crozier, 19, Change-alley; C. E. Kay, 57, Gracechurch-street.

STEAM SHIP STANMORE (Limited).—Capital 10,000*l.*, in shares of 10*l.* To carry on the business of a steamship company in all its details. The subscribers (who take one share each) are—W. Johnston, sen., Lower Rock Ferry; W. Johnston, Liverpool; T. Matheson, Liverpool; E. Paul, Liverpool; J. Reid, Liverpool; J. Roxburgh, Liverpool; J. Houghton, Liverpool; E. Johnston, Liverpool.

THE BATH SANITARY STEAM LAUNDRY COMPANY (Limited).—Capital 7000*l.*, in shares of 5*l.* To carry on the business of a laundry in all its branches. The subscribers are—W. S. Loder, Bath, 20; A. Foster, Bath, 20; J. Nash, Brockley, 20; D. C. Ingle, Bath, 20; C. E. Davis, Bath, 20; E. Hill, Bath, 20; R. A. Moger, Bath, 1.

THE IPSWICH AND SUFFOLK COFFEE PUBLIC HOUSE COMPANY (Limited).—Capital 30,000*l.*, in shares of 1*l.* To establish and carry on the business of general refreshment keepers. No wine or spirituous liquors to be sold. The subscribers are—J. Alexander, Ipswich, 20; J. R. Anness, Ipswich, 10; F. G. Bugg, Ipswich, 25; G. Cobb, Ipswich, 5; D. F. Goddard, Ipswich, 20; J. W. N. Hervey, Ipswich, 50; J. May, Ipswich, 25; W. B. Roche, Ipswich, 50.

THE LONDON SWIMMING CLUB (Limited).—Capital 25,0000*l.*, in shares of 5*l.* Establishing swimming baths, using, selling, or otherwise disposing of the same. The subscribers (who take one share each) are—J. J. Page, 171, King's-road; E. B. Burr, Walthamstow; J. E. Elliott 54, London Wall; L. Blackburn, Dalston; W. Collins, Highbury; J. T. Knight, 28, Spital-square; G. P. Berry, 201, Dalston-lane.

THE THAMES BARGE COMPANY (Limited).—To purchase, build, let, or sell lighters, barges, tugs, &c. The subscribers (who take one share each) are—A. Welman, 41, Stanhope Gardens; J. Webster, 25, Abchurch-lane; G. Hedges, Wapping; C. N. Hoare, Oakfield; A. J. Hoge, Charlton; T. Coomber, East Grimstead; G. Parker, Highgate.

LOBB'S DRIED MILK FOOD COMPANY (Limited).—Capital 30,000*l.*, in shares of 3*l.* To purchase from N. W. Lobb inventions for the drying of milk and the Langley Mills, Vauxhall, and to carry on the business at those mills. The subscribers (who take one share each) are—T. H. Barker, Peckham; J. Jones, 14, St. Swithin's-lane; A. Topham, 17, Great St. Helen's; M. H. Tilly, 37, Queen Victoria-street; N. W. Lobb, Vauxhall; E. H. Paperell, Dalston; P. Hare, 14, Swithin's Lane.

COLISEUM AND COLISEUM BUILDINGS AND OFFICES COMPANY, LEEDS (Limited).—Capital 30,000*l.*, in shares of 100*l.* The purchase of building land in Cookridge-street and Portland-street, Leeds, erecting thereon houses, buildings, &c., and disposing of the same to the best advantage. The subscribers are—W. Brownfoot, Leeds, 5; J. Pickering, Leeds, 10; W. Bakewell, Leeds, 10; W. Smith, Leeds, 5; W. Matthewman, Leeds, 5; G. E. Pickering, Leeds, 5; C. Goodall, Leeds, 2; J. F. Masser, Tadcaster, 5.

THE METROPOLITAN PRINTING COMPANY (Limited).—Capital 50,000*l.*, in shares of 1*l.* To carry on the business of printers, stationers, publishers, and allied trades. The subscribers (who take one share each) are—W. S. Anthony, 15, Hogarth-road; W. Taylor, Hastings; E. V. Neale, Hampstead; W. Marshall, Bedford; D. R. Genalton, Newton Abbot; E. O. Greening, 6, The Terrace, Camden-square; B. Jones, Lower Norwood.

THE NEWCASTLE AND NORTH-EASTERN FARMERS' SUPPLY ASSOCIATION (Limited).—Capital 30,000*l.*, in shares of 10*l.* To carry on the business of importers and manufacturers of artificial manures, cakes, &c. The subscribers (who take one share each) are—G. Wood, Corbridge; J. Pattison, Stocksfield; R. Rowell, Corbridge; W. Easten, Newcastle; W. R. Trotter, Stocksfield; J. Little, Corbridge; J. Hope, Hexham.

THE BRISTOL CROWN BOTTLE WORKS COMPANY (Limited).—Capital 20,000*l.*, in shares of 50*l.* To carry on the manufacturing of glass bottles, and all the details of such a business. The subscribers are—W. Franklin, Cotham 10; H. Withered, Bristol, 11; W. J. Fedden, Bristol, 11; H. Fedden, Bristol, 11; J. Stuckley, Bristol, 12; N. Fedden, Bristol, 4; C. M. Franklin, Cotham, 1.

THE HUNGARIAN TRADING COMPANY (Limited).—Capital 20,000*l.*, in shares of 1*l.* To trade in fresh and preserved meats, poultry, &c. The subscribers (who take one share each) are—J. S. Mackintosh, Stamford Hill; C. J. Hunt, Portsmouth; W. E. Thomson, Taunton; E. Hay, Brixton; W. McNab, 21, Pentonville-road; E. Preston, Old Broad-street; J. W. Graham, 270, Kempland-road.

THE BROMSGROVE WARWICK HALL ESTATE COMPANY (Limited).—Capital 7800*l.*, in shares of 100*l.* The acquiring of property, erecting buildings of any descriptions thereon, letting, leasing, and otherwise disposing of same. The subscribers are—W. Llewellin, Bromsgrove, 19; F. J. Yates, Bromsgrove, 13; H. Corbitt, Worcester, 14; W. Daniel, Malvern, 6; S. Saywell, Bromsgrove, 6; F. Corbett, Worcester, 14; O. Giles, Clifton, 6.

THE LONDON CO-OPERATIVE LAUNDRY (Limited).—Capital 50,000*l.*, in shares of 5*l.* To carry on the business of a laundry in all its branches. The subscribers (who take one share each) are—W. A. Knowles, 34, St. James's-street; H. H. Wombwell, 16, Albert Mansions; T. W. Lewis, Temple; J. W. Lodge, 47, Montpelia square; C. E. Stirling, 51, Elizabeth-street; W. P. Butts, Woking; J. Phipson, 7, King's Bench Walk.

THE TANNUS WATER COMPANY (Limited).—Capital 35,000*l.*, in shares of 1*l.* To purchase and work the mineral waters near Frankfort, and carry on the business of manufacturers, bottlers, and exporters. The subscribers (who take one share each) are—T. J. Turner, Brixton; E. R. Walpole, Crouch Hill; F. Sperling, South Norwood; A. Grace, 12, Walbrook; W. H. Stephens, 30, Bedford-row; C. E. Sherwood, 35, Millman street; G. Sauer, 16, Clement's-lane.

FERRUMITE COMPANY (Limited).—Capital 10,000*l.*, in share of 10*l.* To acquire the business of W. Garnett, London and Portsmouth, and to manufacture and sell cement. The subscribers are—F. J. E. Whitehead, Ramsgate, 100; G. Blake, Southsea, 25; J. L. Livesay, Ventnor, 25; H. Garnett, Ryde, 400; G. Garnett, Ryde, 10; A. R. Holbrook, Portsea, 2; H. Lawrence, Southsea, 2.

THE WATERLOO MILLS, CAKE, AND WAREHOUSING COMPANY (Limited).—Capital 100,000*l.*, in shares of 10*l.* To carry on the business of manufacturers of "The Waterloo Patent Round Feeding Oil Cakes," by acquiring the mills at Waterloo belonging to Messrs. Chambers and Ayre. The subscribers are—H. H. Ayre, Hull, 100; A. J. Ayre, Hull, 100; T. Kidd, Hull, 10; C. Wells, Hull, 50; T. R. Humphrey, Hull, 10; H. Logan, Hull, 50; W. Firth, Bradford, 100; H. Tirtle, Hull, 5; A. J. Wellesley, Hull, 10; F. W. Thorp, Hull, 5.

THE CO-OPERATIVE TEA COMPANY (Limited).—Capital 30,000*l.*, in shares of 1*l.* The purchase and selling of tea and coffee, and generally conducting the business of wholesale and retail merchants. The subscribers (who take one share each) are—H. Hudson, 32, Camberwell New-road; J. E. Figg, 9, Thorburn-square; J. W. Wright, 4, Leadenhall-street; G. S. Smith, Stoke Newington; G. C. Brightling, Kensington; G. Smith, 47, Leadenhall-street; C. J. Lewis, 93, Leadenhall-street.

LONDON AND EASTERN COUNTIES BANK (Limited).—Capital 5000*l.*, in shares of 10*l.* To carry on the business of bankers, bullion and exchange dealers in London and abroad by means of agencies. The subscribers (who take one share each) are—T. J. Armstrong, 3, Adelaide-place; J. Dettorne, 1, Angel-court; H. A. Turnour, Kew; W. E Johnson, Stoke Newington; J. H. Ginder, 37, Walbrook; G. R. Basham, East India Chambers; E. A. Meakes, 73, Newman street.

THE DIRECT FISH SUPPLY ASSOCIATION (Limited).—Capital 100,000*l.*, in shares of 2*l.* To carry on the business of fish farmers, fishermen, sedjeamen, fishmongers, importers, exporters, &c. The subscribers are—C. P. L. Clarke, Durrington, 50; W. A. Kerr, Folkestone, 100; R. E. F. Crawford, 9, Northumberland-street, 1; J. Hastings, 65, Alderley-street, 1; J. Biggs, 65, Alderley-street, 10; H. M. J. Powell, 13, Norfolk-square, 1; C. Yaxley, 34, Essex-street, 1.

THE WARTON AND SILVERDALE MINING COMPANY (Limited).—Capital 10,000*l.*, in shares of 10*l.* To purchase sundry mining royalties in Warton-with-Lindeth, and Warton-in Lonsdale, and in Silverdale, Lancashire, also in Beetham, Westmoreland, and to work same dispose of produce, and to carry on the business of mine owners and manufacturers of and dealers in iron ore and other minerals. The subscribers are—H. J. Walduck, Silverdale, iron ore mines proprietor, 20; W. W. Hadfield, West Gorton, cashier, 1; E. H. Marshall, Manchester, accountant, 1; W. S. Boddington, Manchester, solicitor, 1; G. L. Scott, Chorlton-on-Medlock, engineer, 1; V. Walduck, 148, Gresham House, metal merchant, 1; J. Sproxton, 148, Gresham House, secretary, 1. (Registered without Articles of Association.)

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—John Roberts, June 25: I have nothing new to report this week in the underground department. The end driving on the heading side of the great blende lode is much of the same character as it has been reported to be for some time past. We are making good progress in driving on the shale part of the lode at No. 2, but we have not taken down the lode. We are making very good progress in spilling through the deep level. The dressing department is looking very well, and the incline tramway works as well as could be desired.

ASSHETON.—J. Garland, June 24: Lindow's Shaft: The clearing of the 10, north of shaft, was completed to the end, 39 fathoms from the shaft, on the 21st inst.; it remains now only to clear a cross cut driven east and west from the level. The level having been driven for the most part in the hanging wall not much of the lode can be seen at present, we shall consequently have to cut through the lode, and expose the ore in places to induce the tributers to work it. To ventilate the 10 a pare of men have commenced sinking a winze from one of the pitches below the adit to that level; there are about 4½ fathoms to sink, and communication will be effected near the end of the 10.—Gundry's Shaft: The cross cut at the 20 has been made wider and higher, and put in good order; the clearing of the level going south has commenced, and will be proceeded with as fast as possible.—Mawr Shaft: Saturday last was our setting-day, and we set to drive the 50, south of shaft, on the north and south lode; this lode, which has a strong and kindly appearance at its junction with the east and west lode, and which has been found productive for a good length in the upper levels, has nowhere been proved in the 50. A very few only of the tribute pitches have been set, but we hope to have others working shortly.

BETTWS-Y-COED.—H. T. Haley, June 25: The lode in the north branch in the 20 is worth 30 cwts. per fathom, and set to four men to sink in bottom at 5*l.* 10s. per fathom. In the end going east on the south or main part the lode is getting larger, and more sparry, worth 18 cwts. of lead per fathom; set to two men, at 50s. per fathom. The stope at Pulley shaft in the shallow adit is set to two men, at 17s. 6d. per fathom, worth 18 cwts. of lead per fathom. Since dropping the new lift in the engine-shaft have been able to get on much better in cleaning up the bottom levels. We have also been making good progress in dressing this week, and shall get the buddle to work in a few days.

BODIDRIS.—H. Hotchkiss, June 25: Maes-y pwll Lode: I expect to communicate the new shaft with the rise by means of a bore-hole this evening, which when done will ventilate this part of the mine. We continue to have good lead ore in the rise and also in the shaft, and are leaving good stoping ground for ore in the ends of both, to be taken away directly the shaft is made secure down to the level. The 60 end east, which is being driven on the hanging side of this lode, is in a hard bar of ground; consequently progress here is rather slow, but I am daily expecting an improvement to take place. The 45 end shows very favourable indications of nearing the Craigiog lode; the ground is of a highly mineralised character, and contains a great quantity of carbonate of lime, with good stones of lead ore. The measures are also becoming more vertical. All points are being urged on with speed.

BWLCH UNITED.—Nathaneal Bray, June 21: Everything has been cleared from the wheel-pit, but we have a little repairs to do to the masonry, but the place is quite clear to commence fixing axle, centre pieces, &c. I have been at the foundry several times pushing on the work, and shall go again on Monday. I am, however, rather afraid that owing to the heavy nature of the castings, and the necessity of having everything strong and well made and fitted, the work will not be quite done in the time which was specified, though good progress has already been made.

CAMBRIAN.—Thos. Glanville, June 21: Esgair Fraith: We have commenced to drive a cross-cut north through the lode from the bottom of eastern shaft, and for the distance already driven (3 ft.) the lode will produce 2¼ tons of copper ore per yard. This appears to be a continuation of the ore standing north of the shaft in the 70 yard level above. In the 70 yard level, east of eastern shaft, we are now driving on the south part of the lode, in order to effect a communication with the winze coming down from the 46 yard level, which will greatly improve the ventilation. The 70 yard level, west of eastern shaft, has hitherto been driven on the south part of the lode, but we shall now commence to cross cut north through the lode to see its width and character. In the two stopes in the back of the 70 yard level, west of eastern shaft, the lead part of the lode will produce 15 cwts per yard.—Esgair Hir: In the cross-cut driving south from adit we have cut into a part of the lode, which is producing occasional stones of lead, but not in sufficient quantities to value. In the western part of the sett the lode we are opening on, as far as seen, is about 3 ft. wide, of a very promising character, composed of carbonate of lime, with a small mixture of lead. We have began to drive a level west, and as we get further into the mountain we shall, no doubt, find the lode of a firmer character.

CLEMENTINA.—J. Roberts, W. Sandoe, June 25: Monthly Report; Roadside Shaft: We have cleared the old drain or lobby from the main water-course, which was totally collapsed, turning the water into this shaft, and also the drain from the old wheel-pit, which was also choked, and throwing the water into the shaft. We do not anticipate that the water in the shaft will be now so quick as it was formerly, as the former workers did not clear these, and consequently the water must have gone into the shaft. We have made a new top to the shaft to enable us to put down the pumps and draw out the water. The pumps are now being sent down, and will be completed in a day or two.—Engine-Shaft: The new work for pumping from the shaft is getting now very nearly to a close. The sweep-rod at the crank of the water-wheel is made, and also the vibration joints and a horizontal V-bob for breaking the angle in the line of rods, and we are pulling up the pulley-stands to carry the rods, and unless anything unforeseen occurs we shall be able to start pumping in about a fortnight.

COMBMARTIN.—J. Harris, J. Comer, June 26: The ground in the adit crosscut has changed for the better, having cut through the capels into a very pretty channel of killas, with veins of quartz crossing the end, and spotted with lead, blende, and mundic; the end is also letting out a good deal of water, which leads us to think we are getting near another lode. The lode in the south east adit end is about 2 feet wide, and of a very kindly appearance for producing lead. The leader part of the lode in the winze sinking below the adit level on the caunter lode is about 1 ft. wide, producing beautiful silver-lead, and worth fully 5 cwts per fathom; opening ground for stoping. The men are making good progress with the rise above the adit level; the lode is large, and is carrying a small vein of good lead, which is being carefully taken down and saved for dressing.

DE BROKE.—J. Phillips, June 25: Owing to some heavy floods nothing is doing in the bottom level, and the men at present employed in the 35, driving east on the caunter lode, with the object of proving the north and most productive portion of the main lode at the junction, a short distance further on. The stope east and west of winze, below the 25, is producing 1 ton of lead ore per fm. A stope in back and bottom of the 25 has somewhat improved, producing about 30 cwts. of lead ore per fathom. We are getting up all available leadstuff as fast as possible for our next sampling."

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, June 25: There is no change in the end driving towards Cobbler's lode, only the ground seems to be a little easier.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, June 25: Monthly Report: During the month we have driven at No. 1 adit a little over 2 fms. The lode has been all the month and is now very much like it was in the previous month—about 2 ft. wide, with a strong mixture of blende, with a little lead. At the No. 2 adit we have made a barrow road from the end to the communication to the No. 3, and also made a pass down through the old stull to throw the stuff down to be trammed out at that level. After having made the rise clear of the stuff that had accumulated in rising, we commenced stoping at the bottom of No. 2, where the old men left off, and stoped about 2 fms. The lode is about 2 ft. wide, very strong, and producing good lead and blende. We have not yet had much trial on it to speak definitely as to what it is capable of doing, but being a bunchy lode we may at any moment strike on a good bunch of lead. The No. 2 end is now getting near to the blende and lead gone down in the bottom of the No. 1, and we are anxiously looking for an improvement here. The lode is 1½ ft. wide, with good blende and a little lead. At the No. 4, on the Hafna lode, the lode has yielded, considering it to be a new trial, quite as well as we could have expected. As far as we know the ground here is whole to surface, and a good discovery would be of great importance. The lode is large, with nice ribs of lead, and a moderately cheap ground for working. We cannot recommend too strongly the driving on this lode at this level to the junction of Fuchaslas, Harker's, and other lodes, which would be reached within a distance of 30 fms., and would be from 15 to 20 fms. deeper than the old men's workings, which are very extensive, and which must have yielded a great deal of lead. We have cleared this week at the No. 5 about 15 fms., making during the month close on 30 fms., and we are now near the large stope, which I expect to reach by the end of the present week. This being the main outlet for draining the mine of water, it will be necessary, for the purpose of extending towards the mountain, to spill through the debris which has been thrown down the stope and filling the level. If we do not find the level at that point extremely wide we shall spill the whole width, making the top of the sump entirely clear, and in a short time, with small pumps worked by a wire rope from the engine, we shall be able to get to the bottom. For a great part of the month the dry weather prevented our progress in dressing, but now we have had more rain we are doing better.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, June 26: The new cross-cut north is being urged on night and day by a full force of men, as this will open one of the most important points of the property. Progress in the fortnight 3 yards 2 ft. In the 112 main lode east we have got on well, nearly 4 yards during the fortnight; the yield of lead is increasing, and we expect shortly to get into a valuable body of lead ore. We are cross cutting in the 66 level, and expect good results therefrom.

DERWENT.—John Morpeth, June 24: The monthly setting on Saturday last was well attended, and the letting of the bargains (18 in number) occupied only a few minutes. Setting list, containing estimate of ore, &c., is enclosed.—Jeffries' Shaft, Middle Vein: In the back of the 95, east of shaft, four stopes are working. No. 1, 80 fathoms from shaft, yields 14 cwts. ore per cubic fathom; vein 7 ft. wide, hard and coarse, but looking hopeful for an improvement. No. 2, 75 fathoms from shaft, is also 7 ft. wide, and yields 18 cwts. ore per cubic fathom. No. 3, 60 fms. from shaft, is 5 ft. wide, worth 16 cwts. ore per fathom. No. 4, 64 fathoms from shaft, yields 17 cwts. ore per fathom; vein 4 ft. wide. West of shaft over the 93 we have five stopes. No. 1, 140 fathoms from shaft, has improved; at present 6 ft. wide, and worth 18 cwts. ore per fathom. No. 2, 129 fathoms west of shaft, produces 14 cwts. ore per fathom; vein 4 ft. wide. No. 3, 123 fathoms west of shaft, is 4 ft. wide, and worth 15 cwts of ore per fathom. No. 4, 116 fathoms west of shaft, is 4 ft. wide; poor at present, and worth only 12 cwts. ore per fathom, but will improve presently. No. 5, 109 fathoms west of shaft, is 4 ft. wide, and yields 15 cwts. ore per fathom.—Sun Vein: The stope in the back of the 70, 28 fathoms east of shaft, yields 15 cwts. ore per fathom; vein 3 ft. wide.—Westgarth's Shaft, Middle Vein: In and over the 93, east of shaft, we have seven bargains set, working by 34 men. No. 1 is cutting sides in the level, 100 fathoms east of shaft, which yield 20 cwts. ore per cubic fathom. No. 2 is rising and stoping in the immediate back of level, 87 fathoms east of shaft; vein 6 ft. wide, and yields 25 cwts. ore per fathom. No. 3 is rising and stoping out of workings over the 93, 77 fms. east of shaft; vein 4 ft. wide, and yields 20 cwts. ore per fathom. No. 4 is stoping down the back of level, 74 fms. east of shaft; vein 4 ft. wide, and worth 20 cwts. ore per fathom. No. 5 is cutting sides in the level, 69 fathoms east of shaft; here the vein for the height of the level is coarse, and worth only 10 cwts. ore per fm., but we are laying open better ground for stoping down in the roof. No. 6 is stoping down the back of level, 50 fathoms east of shaft, where the vein is 4 ft. wide, and yields 14 cwts. ore per fathom. No. 7 is rising and stoping over the level, 48 fathoms east of shaft, and in this bargain we have the last few weeks a good improvement; vein 4 ft. wide, and worth 19 cwts. ore per fathom—at both ends of this rise we have nice ground available by-and-bye for new stopes. The 74 west continues without much change.

DEVON GREAT CONSOLS.—Isaac Richards, June 26: Wheal Emma, Inclined Shaft: In the 137 east, east of Friend's cross-cut, the lode is 5 ft. wide, composed of capel, quartz, peach, prian, mundic, and a little copper ore of good quality. A winze (Northway's) is being sunk in the bottom of the 162 east for communication with Floyd's stope in the back of the 175 east, the lode in which—4 to 5 ft. wide being carried—is composed of capel, quartz, peach, and copper ore, worth 3 tons, or 9*l.*, and 3 tons of mundic per fathom.—New Shaft, New South Lode: In the 205 east the lode—part carrying 3 ft. wide—is composed of capel, quartz, peach, a little copper ore, and mundic, equal to 1 ton per fathom. In the 205 west the lode—3 ft. of which is being carried—is composed of capel, quartz, peach, a small quantity of copper ore, and 2 tons of mundic per fathom. In the 190 east the lode—4½ ft. wide being carried—is worth 6 tons of copper ore, or 18*l.*, and 4 tons of mundic per fathom. In Knott's winze in the bottom of the 190 east the lode—part carrying 5 ft. wide—is composed of capel, quartz, peach, a small portion of copper ore, and yields for length of winze—9 ft.—9 tons of mundic per fathom. In the 190 west the lode—6 ft. wide being carried—is composed of very fine capel, quartz, peach, prian, copper ore worth 4 tons, or 12*l.*, and 8 tons of mundic per fathom. In the 175 east the drivage is being carried by the side of the lode for more speedy progress. In the 175 west the lode is 3 ft. wide, and worth 4 tons of copper ore, or 12*l.*, and 2 tons of mundic per fathom. In Hockaday's rise in the back of the 175 west operations for the time are suspended. In the 175 cross-cut north, at the railway shaft, the ground is highly mineralised, and favourable for progress.

DUBBY SYKE.—W. Vipond, June 20: The shaft is down and timbered 12 ft.; it is still in clay.

EAST ROMAN GRAVELS.—Arthur Waters, June 26: The engine shaft is now 6 fms. 1 ft. below the 86; ground still favourable. There is no change worthy of note in any of the other points since my report last week. I enclose certificate for the 30 tons lead ore sold on the 19th inst.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., June 21: The lode in the 117, west of cross-cut, is 5 ft. wide, producing very strong arsenical mundic, with good stones of ore. The lode in the 105 east is carried 7 ft. wide, producing 10 tons of arsenical mundic and ore per fathom. The lode in the stopes going down in the bottom of the 105 is worth 18*l.* per fathom. No. 2 stope in the bottom of the same level is worth 10*l.* per fathom. The lode in the stopes in the back of the 105 is worth 7*l.* per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—Wm. Taylor, Wm. J. Taylor: The 102 east, on south lode, has a promising appearance, producing a little ore and letting out a good deal of water, which has drained the 90. The 102 east, on north lode, is improving as we get off the cross-course; on this lode in the bottom of the 90 we are sinking a winze worth 15*l.* per fathom—this is some 10 fms. east of the 102. We hope to find the same productive lode at this level. In the 90 west we have holed to No. 1 winze on north lode, making good ventilation; we have a piece of ground to square down before we drive west of this winze. This we are doing as fast as possible. In the 90 east we find a little ore and mundic going off in the north side; we have put the men to open these to prove it. No change in the cross-cut south at this level; the ground is still hard. The south lode driving east is hardly looking so well, being disordered by a horse, which, we think, is only temporary; now worth 6*l.* per fathom. The stopes and pitches throughout the mine continue to yield about their usual quantities of ore, varying in value from 10*l.* to 25*l.* per fathom. Every economy is used in working the mine, and all points are pushed on as fast as possible.

GORSEDD AND MERLLYN.—June 26: I am glad to say that the 70 east is improving, and looks well; the lode is about ½ yard wide, and the lead is getting more solid as we go on. Progress during the fortnight 2 yards. There is no change to report at present in the 70 west. In the 90 east we continue to crosscut further north, and have brought some good lead to surface in sinking the sump referred to some time since. In consequence of the low price of lead we have discontinued the tributers' bargains; they can be resumed, however, at any time you wish as they all look well.

GREAT HOLWAY.—June 26: Garden Shaft: We have placed men to sink on the vein west of the shaft; we have here a strong body of calamine and blende, and expect this will lead us to something of considerable importance. The progress at Roskell's is good, and I am glad to say we have very little more to do to complete this job. The engine, now that it is up, looks splendid.

GREAT RETALLACK.—J. Harris, June 21: I have to-day set the stope to four men on tribute for one month, at 25s. per ton for No. 1 blende, and 15s. per ton for No. 2, the men to pay all cost to make the blende marketable. The leader part of the lode is from 1½ to 2¼ ft. wide, producing blende throughout; worth 2 tons per fathom. I am hoping the men will get a good pile of blende in about a month.

GREEN HURTH.—W. Vipond, June 20: As we have not done anything in the south end of the 30 since Wednesday it is still worth 4 tons of ore per fathom. The north end continues hard and poor; it is not yielding more than 16 cwts. of ore per fathom. At present whether we have got out of the orey part of the vein or we are in a poor piece of ground I cannot say. We have plenty of strength of vein, but not the ore. I shall take the dial in this afternoon, to see how we are bearing with the level above; if we are too much either east or west it might perhaps be advisable to cross-cut. The sump at the foot of incline is going down in good form. I expect we shall have the 10 tons of ore ready by the end of next week and the dues, which will make altogether about 140 bings.

GUNNISLAKE.—Wm. Skewis, J. C. Seccombe, June 18: The shaftmen are making all the progress possible in cutting plat, &c. No change in the underground department since the last report. We are getting on with the buildings as fast as the weather will permit. The engine house is up and roofed in. We commence to-morrow getting things in order to put in the engine, &c.

HERODSFOOT.—P. Temby, June 26: On Saturday last I set the following bargains. The 205 end to drive south by four men, at 55s. per fathom; lode 20 in. wide, worth 12 cwts. of ore per fathom. The 205 end to drive north by two men, at 55s. per fathom; lode is still disordered, and appears to be split; we have opened on the eastern part, which appears to be the leading part of the lode, and is producing some very rich stones of lead ore; we shall continue to open on this part. The rise over the 205 to six men, at 3*l.* per fathom; lode small and mixed with killas and spar. We hope to communicate with the 190 in a month or five weeks. The 190 end to drive north by four men, at 63s. per fathom; lode 5 ft. wide, with lead disseminated throughout, worth fully 18 cwts. of lead ore per fathom. The rise over the 190 for new shaft by six men, at 65s. per fathom; this rise is now up 8 fms., and in three weeks I calculate to communicate to the 175; the lode is 2½ ft. wide, and worth 12 cwts. of lead per fathom. When this communication is made we shall at once prepare for sinking below the 205, and while the first 10 fms. are sinking we shall timber down the shaft, fix balance bob, put in skip road, &c. We are drawing stuff every day from the new shaft, and shall do our best to get it clear against the rise is holed to the 190, so that we may bring down rods, &c. No. 1 stope in the back of the 205 is set to six men, at 2*l.* 2s. per fathom; lode worth 20 cwts. of lead ore per fathom. No. 2 stope, north of winze, to six men, at 1*l.* 15s. per fathom; lode worth 18 cwts. of lead ore per fathom. No. 3 stope in the back of the 205 to two men, at 1*l.* 15s. per fathom; lode worth 15 cwts. of lead ore per fathom. No. 4 stope over the 190, north of cross-cut, to two men and two boys, at 1*l.* 15s. per fathom; lode 6 ft. wide, and worth 15 cwts. of lead ore per fathom. A new pitch was set in the back of the 70 to three men, at 8*l.* per ton for lead. All other tribute bargains were let at our last setting for two months. We have delivered No. 2 parcel of lead at Looe, and shall commence to carry No. 1 parcel to Doublebois to-morrow, and hope it will all be delivered in Bristol by this day week.

HINGSTON DOWN.—Thomas Richards, June 25: There is no material change in the mine. All the productive points of operation are of the same value as reported last week.

LADYWELL.—Arthur Waters, June 26: We have cut the wall of the lode in the cross cut west from the shaft, in the 32 in hard ground. We hope to cut in and make a discovery in the course of a few days. The other points are without change since last reported on.

LLANRWST.—Robert Knapp, June 23: If the lode continues through to the level above as good as it is now it will add immensely to the resources of the mine. It is all in virgin ground—there is no level above it or, as yet, below it. The 14 has to be driven 8 or 9 fathoms further to come under this point, and all the ground between the rise and the adit end is exceptionally good—about 20 fathoms in length—and there is a good lode in the end itself, far exceeding the average value of the level.

MELLANEAR.—John Gilbert, June 25: The 30, west of Gundry's shaft, was driven last month 3 fms. 3 ft. 6 in.; the lode is now 1 ft. wide, yield good stones of copper ore, but not sufficient to value. The 40, west of Gundry's shaft, was driven 2 fms. 3 ft. 6 in.; the lode is 1¼ ft. wide, and producing a little saving work for copper ore. The 60, west of Gundry's shaft, on the south-east part of the lode, was driven 1 fm. 4 ft.; the lode is 4 ft. wide, and worth 2 tons of ore per fathom—a very promising looking lode, but spare for driving. The 60, west of Gundry's shaft, on the north part of the lode, was driven 1 fm. 4 ft.; the lode is 1 ft. wide, and worth 1 ton of ore per fathom. The 70, west of Gundry's shaft, was driven 6 fms.; the lode is 3½ ft. wide, and worth 3 tons of ore per fathom. The 80, west of Gundry's shaft, was driven 3 fms. 3 ft.; the lode is 4 ft. wide, and worth 3½ tons of ore per fathom, and very promising to further improve. The 90, west of Gundry's shaft, was driven 2 fms. 4 ft. 6 in.; the lode is 4 ft. wide, and worth 2 tons of ore per fathom. The 100, east of Gundry's shaft, was driven 3 fms.; the lode is 3¼ ft. wide, and worth 1 ton of ore per fathom. The 100, west of the skip-shaft, was driven 3 fms. 1 ft. 6 in.; the lode is 4 ft. wide, and producing good stones of copper ore and a little saving work for tin. The 70 cross cut, south of the skip-shaft, was driven 4 fms. 5 ft.; this cross cut is now 40 fms. south of the main lode; the ground is very congenial for mineral, and easy for driving. Gundry's shaft, below the 100 fm. level, was sunk 1 fm. 1 ft. 9 in.; ground harder than usual, but we think it will improve again as the shaft gets further from the lode in a more settled rock. The rise in the back of the 30, west of Gundry's shaft, was put up 2 ft. 6 in.; the lode is 1 ft. wide, and worth ¼ ton of ore per fathom. The rise in back of the 90, west of Gundry's shaft, was put up 1 fms. 2 ft. 6 in. this rise is up 6½ fms., and the lode is 3 ft. wide, and worth 2 tons of ore per fathom. The rise in the back of the 100, west of Gundry's shaft, was put up 6 fms. 4 ft.; the lode is 3 ft. wide, and worth 2 tons of ore per fathom. This rise is up 8 fms., and will be communicated to the 90 this month. The winze in the bottom of the 70, west of Gundry's shaft, was sunk 8 ft.; this winze is 4 fms. behind the 70 end, the lode in which is 2 ft. wide, and

worth 2¼ tons of ore per fathom. The winze in the bottom of the 60, west of Gundry's shaft, on the south east part of the lode, was sunk 3 fms. 4 ft.; the lode is 4 ft. wide, and improved to 3 tons of ore per fathom. We have also set nine stopes to 26 men.

MINERAL CORPORATION OF GREAT BRITAIN.—William Bennetts, June 25: HAFNA AND HIGH HAFNA MINES: No. 3 Adit End: In taking down the north or hanging-wall of the lode it was found, as I anticipated in my report of last week, the main part of the lode standing in this direction. We have cut into another branch 6 in. wide, all but solid blende, and have not as yet reached the hanging-wall. In the rise in the back of No. 5 level there is nothing new to report on, as the men are rising by the side of the lode. At surface the masons have completed the walls of the crusher house, and the carpenter is putting in the woodwork, which will be completed to-day, after which the masons will at once put on the slating. The engineers at the foundry have put in the woodwork to carry the crushing-mill, and will to-morrow commence bringing up the new water wheel from the foundry to the mine.

MONYDD GORDDU.—J. G. Green, June 25: As under I beg to hand you my weekly report. The 34 driving north-east by four men, on caunter lode, is worth 25 cwts. of lead per fathom. The 34 driving north on cross branch from winze is producing saving work for the floors. The 24 west is in a strong wet lode, hard for exploring, and containing spots of copper. The 12 west is worth 1 ton of blende and 1 ton of lead per fathom, and the ground is a little easier for driving. No alteration in the stopes, and drawing and dressing going on regularly with a full supply of water. I am glad arrangements have been made for completing the large reservoir at Craig-y-Pistyll, as the appearance and prospects of the mine warrant its full and vigorous development. As soon as the western course of ore is reached in the 24 I shall commence a rise in the back to hole to the 12, and thus ventilate and open this section of the lode for stoping.

NORTH DERESBY MOUNTAIN.—June 25: In No. 2 adit the men for the past week have been engaged in stripping down the hanging part of the lode, which looks well for lead; we have not yet reached the wall of the lode, which at this point appears to be very large, containing lead throughout.

PATELEY BRIDGE.—C. Williams, June 26: The Rake vein in the 30 east is without any material change, being 7 ft. wide, and producing branches of ore, but not to value; ground favourable. We resumed sinking sump-winze on Monday last, and good progress is being made; the vein in the bottom is 6 ft. wide, and producing excellent ore throughout. Fielding's vein in the 30 north-west is 3 ft. wide, containing a rib of ore 3 in. thick—solid. Fielding's vein in the sump under the 20 north-west is 4 ft. wide, and worth 20 cwts. of lead ore per fathom. The tribute pitches are without change, producing ore as for some time past. All the machinery is working satisfactorily.

PENNANT.—June 26: The men working at the back and the bottom of the 60, east of engine-shaft, are cutting a good quantity of mineral, which we are drawing and dressing rapidly. We are urging on the driving of the 40 west on the south lode. The machinery is in good order, and everything is going regularly.

ROMAN GRAVELS.—Arthur Waters, June 26: The deepening of the new engine-shaft is going on regularly, and the various ends and other points are yielding ore in quantities equal to valuations given in late reports. The masons are progressing with the loading and walls of house for the new winding-engines.

ROOKHOPE.—Thomas Tonkin, June 26: Adit Level: Our workings on side vein are a little changed since my last report; the yield now is 12 cwts. of ore per fathom. The stopes near Gin shaft are looking quite up to their usual yield—10 cwts. to the fathom. I have set some ground here at 22s. per fathom. In the 15 we are stoping some ground on the side vein near Low shaft at 17s. per fathom, and the yield of ore is 10 cwts. to the fathom. As the stopes near Gin shaft now look, they will yield 12 cwts. to the fathom. I have set the ground at 35s. per cubic fathom. In the 25 I have commenced stoping at the pump-sump, where the yield at present is 20 cwts. of ore to the fathom, and have set the ground at 24s. per cubic fathom. I have also set the stopes on the side vein beneath this level at 40s. per cubic fathom, and the yield at present at this point is 12 cwts. to the fathom. In the 42 the stopes yield at present 10 cwts. of ore to the fathom, and I have set the ground near Gin shaft at 35s. per fathom. We have made a discovery of a nice piece of ore ground near this place, which I am preparing to attack forthwith. We have had some beautiful weather during the week for surface operations, and the dressing is going forward regularly, also the machinery working well.

SOUTH CAMBRIAN.—A. Williams, June 25: The lead ore continues to improve in the lower part of the adit level, the upper part being not quite up to it for the last few feet driving; we are now pressing on this drivage with an additional force, and are making good progress with it. In the rise in back of adit level we are breaking very good blende ore, and the men are making good progress with their bargain. All preparatory work has been completed towards sinking the shaft from surface, and the men are now winding up the rubbish which filled up the shaft to the top during the long years it has been left standing. I expect by this time to-morrow to attain its bottom, when sinking shall immediately be proceeded with.

SOUTH CONDURROW.—William Rich, William Williams, Henry Abraham, June 24: The 30, east of the engine shaft, is worth 6l. per fathom. The stope and rise behind this end is worth 8l. per fathom. The 50, east of King's, is worth 10l. per fathom. The rise in the back of this level is worth 15l. per fathom. The 50 end, west of Plantation shaft, is worth 9l. per fathom. The rise in the back of the 50 is worth 15l. per fathom. The 70 end east is worth 8l. per fathom. The 70 end west yields low-quality tinstone. The lode in the Plantation shaft, below the 70, is worth 12l. per fathom. The rise in the back of the 70 east is worth 20l. per fathom. The 80 east is worth 8l. per fathom. The lode in the back of the 93 east is worth 25l. per fathom.

SOUTH DARREN.—H. James, June 26: The shaft is now down 8 fms. 4 ft. 9 in. below the 100; no change in the lode since last week. There has been no lode taken down in the 100 west for the week; the men are at present taking down a piece of lode in the back, worth 2 tons per fathom. The 90 end is without change. No. 1 stope, in the back of the 90, is worth 1¼ ton per fathom; No. 2 stope, 1 ton per fathom. No. 3 stope is suspended, being worked to poor ground, and the men put to stope in the back of the 100, at 55s. per fathom, 5s. per fathom to be deducted for tramming, &c.; lode worth 2 tons per fathom. The stope in the back of the 80 is worth about the same as last week—1½ ton per fathom. No change elsewhere worthy of remark.

SOUTH TOLCARNE.—William Rich, James Knotwell, June 25: The 36 end east is letting out water freely. We have not yet reached the cross-course, but hope to do so shortly; the end is still in broken ground. The rise in the back of the 36 yields capital stones of copper, intermixed with fine looking gossan.

TAMAR (Silver-Lead and Fluor-Spar).—R. Goldsworthy, June 25: Saturday being setting and pay day the following bargains were let:—To drive the 37 south, by four men, at 4l. 10s. per fathom; the lode is 3 ft. 6 in. wide, and from its promising appearance we hope soon to report a good improvement. The 27 south has been cleared, secured, and tramroad laid down, and the end set to drive at 2l. 10s. per fathom. There is a slide in this end which has a rapid underlie south, about 5 ft. in 6 ft., which has thrown the lode a little west, but as this end is extended, and the lode clear of the influence of the slide, we hope it will be found productive, and lay open a valuable piece of ground. Two tribute pitches in the back of the 37 south, to eight men, at 9l. per ton for silver lead, 9s. per ton for best fluor-spar, and 5s. per ton for seconds. The men in the south pitch have a bargain to hole a piece of ground, 6l. 10s.; when completed we shall be able to remove the stuff to shaft much cheaper.

TANKERVILLE.—A. Waters, June 26: We have cut the lode in the 220, and hope to be able to write fully about it next week. The 208 east is driven 34 fms. 3 ft., and the end is now up to a change of ground, which has disordered the lode. The 206 west is driven 22 fathoms; the lode in the present end is 6 ft. wide, and worth 1½ ton per fathom, and improving. The new winze below this level, west of shaft, is on a lode 4 ft. wide, and worth 2 tons per fathom. The stope in back of this level east is worth 2 to 3 tons per fathom. Other points as for some time past. We have to day sold 80 tons of No. 1 quality, and 25 tons of No. 2 quality lead ore, for 84l.

TEESDALE.—June 20: West End Forehead: A still further improvement has taken place since last report. It is easier to work, more mineral like, and very much more lead ore. I am quite safe in estimating its present value at from 3¼ to 4¼ tons per fathom, and still we have not seen the best of it. We have never had it so rich and promising before. The west end stope continues with little or no variation for the last six weeks. I fancy there is a little improvement towards the bottom part on this occasion.—West End Stope, No. 2: This rise, though it moves very slow, shows more lead ore as we get higher, which, of course, is always satisfactory, as we are likely to get a good mine a little higher up. The men in the east branch have some excellent good ore; they have sent very rich bouse out, and it is both easy to get and handy to work. It must be paying us 100 per cent. This branch will have to be worked with more men, and is likely to yield some hundreds of bings of lead ore. We have now fourteen men working inside to a profit. There is sufficient lead ore in the west forehead to pay the entire cost of working the mine. The dressing is going on all right, and plenty of water. I can scarcely calculate to a ton what quantity of lead we have laid down in the binkstead. The London Lead Company are coming for their parcel on Monday.

TEMPLE.—June 25: No. 1 level is set to six men, to drive west, at 2l. 5s. per fathom, producing fully 1 ton of lead ore per fathom. No. 2 level is set to six men, to drive west, at 3l. 10s. per fathom; the lode in the end is improving in appearance, and produces 15 cwts. of lead ore per fathom. The stopes in the back of this level are each producing an average of 1 ton of lead ore per fathom—one set at 2l. 17s. 6d., and one at 3l. per fathom. No. 3 level is set to six men, to drive west, at 7l. per fathom; the lode continues to improve in appearance and produce of blende, but still is unproductive of lead. The stope in back of this level is set at 3l. per fathom, and produces 1 ton of lead ore per fathom. At surface the operations are progressing, although the weather is again unfavourable.

WEST ASSHETON.—Joseph Garland, June 24: The ground in the 40 west is a fair killas, and favourable for driving; the lode is becoming more regular, and less disturbed; it is now 1 ft. wide, and composed of quartz, hard clay-slate, and a little lead ore and blende. A little water is issuing from the end. No. 1 stope, in the back of this level, is improving; the lode is now yielding good rocks of ore. No. 2 stope, in the back of the same level, yields very good ore in places; the lode when last taken down yielding for 3 fms. in length 1¼ ton of lead ore per fathom. Fair progress is being made in driving the 50 west. Small branches carrying stones of lead ore and blende are coming into the end, and we hope to be able to report a further improvement shortly. We have—on setting-day, June 21—set the usual number of tribute pitches. We commenced putting in a new lift below the 80 on Tuesday last, and we were in fork to the 80 by the end of the week. The shaftmen are now engaged dividing and casing the shaft, and preparing for winding below the 60. As soon as this is accomplished we shall clean up the shaft and clear the 80 with as little delay as possible.

WEST HOLWAY.—R. Rowlands, June 26: The new shaft is down 20 yards, and capital progress is being made. We do not think it advisable to do anything in our recent discovery until the pit is finished; but when accomplished we can make good returns.

WEST VOR.—S. Harris June 26: I have been underground this morning. We are sinking in the bottom of the adit level on the south lode (Sosen); we have got down about 3 ft., and the lode is fully 4 ft. wide. I never saw a more promising lode for the production of tin; it is well defined, very foul with mundic, and a little tin disseminated throughout.

WEST WHEAL PEEVOR.—W. T. White, June 24: I am pleased to say we this morning intersected Wheal Peevor south lode in the cross-cut, which is driven 7 fathoms from shaft. It is very satisfactory to me to be in a positon to state that the lode rather exceeds my expectation in productiveness for such a shallow depth (3½ fathoms). To prove its value as far as seen I broke two kibbles of stuff from it, and tied them and sent to surface and a proper sample taken; the produce of this is 1 cwt. 1 qr. of black tin per ton of stuff; this is for about 18 in. wide, the distance cut into, but not yet through it. Knowing how productive this lode is in Wheal Peevor, and from its character as discovered here to day, it places the value of this property beyond a doubt. As soon as we have cut through the lode we shall at once drive east and west on its course, and again commence the sinking of the engine-shaft for another level.

WEST WHEAL TOLGUS.—July 26: Taylor's Shaft: The lode in the 155, west of shaft, is 3 ft. wide, and yielding 1½ ton of copper ore per fathom. The ground is better for driving, but there is no improvement in the lode. In the 145, west of shaft, the lode is 4 ft. wide, improved to 2 tons of ore per fathom, but the ground is hard and spare for driving. The lode in the 145, east of No. 1 cross-cut, is 3 ft. wide, and yielding ½ ton of ore per fathom, and looking a little more promising. No. 1 winze, under the 145 west, was communicated last night to the 155. The men are now engaged in squaring their ground; after this is done, we shall put them to try to resume the sinking of No. 2 winze. The lode in the 135 west is 1 ft. wide, yielding good stones of ore, but not sufficient to value. In No. 5 winze, under the 135 west, the lode is 1 ft. wide, unproductive. There are four stopes in the back of the 145 west, producing on an average 3 tons of ore per fm. Three stopes in the bottom of the 135 west are producing on an average 2¾ tons of ore per fathom.—Richards' Shaft: In the 95 west the lode is 5 ft. wide, very sparry, and letting out a great deal of water. In the 65 west the lode is 3 ft. wide, with spots of ore, but very much disordered by crossings of spar.

WHEAL CREBOR.—John Andrews, June 24: The lode in the 120 east is 5 ft wide, and worth 35l. per fathom. The new discovery south of the 120 stope continues to look well, and is still worth 30l. per fathom. The lode in the 108 east is 7 ft. wide, and is worth 25l. per fathom. The lode in the winze sinking below the 108 is 7 ft. wide, and worth 50l. per fathom. There is no change in the rise in the back of the 48, nor in the new shaft.

WHEAL CREBOR.—John Andrews, June 26: There is no change in the mine since Tuesday, and every point is of equal value as then reported.

WHEAL GRENVILLE.—T. Hodge, June 25: I see no change in the 165 east end since my last, the ground in which is spare. The lode in the 165 west end is looking more promising, with occasional stones of tin. The 150 east end is worth 10l. per fathom. The winzemen during the past week have been engaged shooting down the side of the level; they will commence to sink to morrow. The 140 east end is worth 8l. per fathom, and likely to improve. No other change.

WHEAL PEEVOR.—W. T. White, J. Pryor, June 23: We have no change to report in connection with this mine. At the meeting to be held next week a good report will be given, and a satisfactory statement of accounts shown.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, June 23: Produce eleven days, first division of June, 13,000 oits.=5037l.; yield, 6·1 oits. per ton. Profit for the month of May, 7000l.

DON PEDRO.—Extract from Capt. Vivian's letter, May 24: 60 ft. Iron Wheel and Pit-work: The wheel continues to work remarkably well, it is impossible for any piece of machinery to do better, and it is working so smoothly that all that can be heard is the water falling into the buckets. We managed to fork the water with the 15-in. plunger lift, 29 fms. below the top of No. 1 incline, sump shaft, when it failed to do good duty. This, of course, is what we anticipated, and we commenced at once to prepare and put down pitwork to redeem the plunger. This work is being pressed forward as fast as possible. We have to arrange and fix about 40 fms. of new pump work which we have here, with the exception of a few pumps. These we can make out of wood, not however in the old slow way by boring, but they will be put together in segments, thereby making five in the time one could be bored. You will understand this pitwork will be fixed in No. 1 incline sump shaft. On such a flat underlie it is difficult to drop pumps in mud and water; however, this as well as other hardships, will be surmounted.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, $60,000, from 1035 tons of ore. Doré bars from refinery, $45,000.

— R. Rickard, June 4: Since my last very little work has been done in the several drifts being driven by the Burleigh drill on account of two of our boilers getting out of repair, consequently we could not with one boiler raise steam enough to hoist ore and also work the compressor. The only drifts which have been run are the 500 north cross cut and 900 north cross cut. The 500 north cross-cut has been drifted 23 ft. without any change to mention. The 900 north cross-cut has been advanced 18 ft. in this drift; we thought that we were through the shale. The limestone we had was only a narrow belt, which we passed through and struck the shale again; we have drifted a total distance of 20 ft. in this shale at present, with the same in the breast of the drift. The Nos. 11 and 12 chambers are looking very well, and turning out the usual quantity of ore. The No. 10 chamber is not looking so well as it was; we are now following ore indications making off from the chambers, and hope to develope more ore. There is no change in any other part of the mine.

BLUE TENT.—D. T. Hughes, May 31: We set off with 550 kegs of powder this afternoon the blast mentioned in report of last week; it was a very good one, and pulverised the ground very well; the water is playing on it already. Everything is working satisfactorily all round.

BIRDSEYE CREEK.—G. S. Powers, June 9: I sent cable of this date, as follows—We have cleaned up after a run of 30 days. Gross, $11,750; profit $7750: paid note. We are in a position to do equally as well for this month by using all the water in Neece and West claim, which I purpose to do. The expense will be greater this month than last, on account of powder blast exploded on the 3rd inst. of 660 kegs, or its equivalent in Judson powder. The blast was apparently a great success, and as the Judson comes cheaper per pound than the common black powder, if equally as effective it will lessen our monthly expense. The water in the company's ditch is fast drying up, but I hope it will keep up sufficient to give Neece claim a respectful head during this month, otherwise we shall be compelled to fill out with South Yuba water.

COLORADO UNITED.—The directors have received a letter from Mr. Hamill, dated May 24, in it he says: As I have before written, my chief anxiety is to obtain new reserves is as short a period as possible. Since my last report I have been steadily sinking the Silver Ore shaft, until I have now obtained sufficient depth to allow the 9th level to be commenced. Before we can commence drifting out easterly and westerly from the Silver Ore shaft on the 9th level it is necessary to cut to plat on the west side of the shaft. The contract of this plat I have let at $300 for the job. I expect they will finish it during the first days of June, when I shall commence drifting easterly and westerly therefrom. For the last 30 ft. the Silver Ore shaft has developed a fine vein of mineral, averaging from 3 to 6 in., and is now in a vein of ore that promises exceedingly well for the production of mineral. Should this vein of ore, however, extend for any considerable distance easterly and westerly from the Silver Ore shaft we must develope, by driving the 9th level, one of the best paying stopes that has yet been exposed in the company's property. It will take fully four months to open the first blocks of ground east and west of the Silver Ore shaft, and it is, of course, entirely too soon to estimate what amount of ore these blocks will produce. My intention is to resume the sinking of the Silver Ore shaft just as soon as the 9th level shall be sufficiently out of the way, which, I trust, will be by the middle of June.

The several winzes I have been sinking from the floor of the 8th level to block out the ground between the 8th and 9th levels are as follows:—No. 1 Winze: This winze is down 50 ft. below the 8th level; so far it has not developed any uniform body of ore, the crevice throughout the entire width of the winze has been seamed through with small streaks of ore, making milling dirt. This winze is the first west of the Terrible shaft. The ground in No. 2 winze is quite favourable, and the winze is carrying from 3 to 6 in. good ore. Early in the month a water course was cut, preventing the further sinking of the winze until such time as the 9th level shall approach it. The ore encountered in this winze has been one of the most encouraging features we have had in the mine.—No. 3 Winze: The developments by sinking this winze we are pleased to say have been quite satisfactory, having carried on the greater part of the way. It is now down 60 ft. below the 8th level, with two veins of ore in the bottom averaging 3 in., and will be the first winze cut by the 9th level.—Winze No. 4: This is situated about 75 ft. west of the Silver Ore shaft, and is now down about 5 ft. I expect to have to sink this winze about 20 ft. before getting into any regular body of ore. By driving the 9th level west and sinking this winze a block of stoping ground will be opened to the west of the Silver Ore shaft.

TOLIMA.—The Frias April returns show a profit of 181l. The underground agent reports 46 fms. 8 ft. 4 in. of ground expended, of which 14 fms. 2 ft. 11 in. were unproductive, leaving 32 fms. 5 ft. 5 in. of productive ground. The diminution in the returns is accounted for in the advices by the loss of a week at Easter, the prevalence of sickness, resulting from an unusual rainfall, together with a breakage in the water-wheel, which had also retarded progress. Meanwhile, the agent in his monthly report says—"With the exception of a material improvement which occurred in the 40 fm. level east about the middle of the month, there has been no important change to note in the stations generally."

PITANGUI.—T. S. Treloar, Pitangui, May 17: Nothing calling for remark has occurred during the last fortnight, with the exception of meeting with water in the air shaft in connection with the rise soon after reaching the blue killas. This was not expected, as the adit passed through this channel of ground ten months ago. In consequence of this the level from No. 2 shaft was extended to a point vertically over the rise, preparatory to sinking on the latter in the sandstone, which is of a more porous nature than the killas, and should certainly be drained. The mine captain reports as follows on the works in the mine during April:—Rise from Adit: We still have blasting ground, and considering the same fair duty has been done, 3 fms. 3 ft. has been risen. The quantity of water issuing from the adit is about the same as for some months past.—Shafts: Seeing that the water in Nos. 1 and 2 shafts was not drained properly, we decided to run down a winze through the old workings in Ouro Podre to find the level of the water. At a depth of 8 fms. below the horizon of the brace of No. 2 shaft we reached water, which shows that we have still a large quantity from the old workings acting against us inside the hanging wall. The water still being so high above the bottom of the shaft, before we can cut through to the lode communication with the adit must be made. We are now driving back from No. 2 shaft to the rise, and on the 10th we commenced an air shaft in connection with the rise. This shaft is in free sandstone, and circular so as to save timber. It has been sunk 12 fms. 4 ft.

Hosking's Level: There has not been much done on account of the quantity of timber required and the crush getting very heavy.—Adit Level below Dias Shaft: We have cleared out two small levels driven for exploration, but found no trace of gold sufficient to work on; one of these levels we are extending through the body of jacotings to see if any line of gold passes about this place. We have cleared out 11 fathoms or more of this adit, and are still continuing to do so, as we are told that a shoot of gold exists in the ground ahead, which we hope to strike in about 5 fathoms more. As yet we have not reached the sink mentioned in my last report.

COPIAPO (Dulcinea).—J. H. Vivian, May 10: Fletcher's shaft to sink 1 metre, by four men, at $30 per metre; the water has increased here to 80 gallons daily; when we have completed 1 metre more we shall commence to drive north and south, and cut a plat. The winze to sink below the 150 fm. level, by six men, at $30 per metre; we have 1 metre more to sink to reach the same horizon as the shaft, when we shall put three men to drive north; the lode is 4 ft. wide, and will yield 8 tons of ore per fathom for length of winze—9 ft. The 150 to drive south, by two men, at $45 per metre; the lode is 2 ft. wide, and yields 3 tons of ore per fathom This level to drive north, by two men, at $15 per metre; the lode is poor. The 140 to drive south of shaft, by one man, at $9 per metre; the lode is small and poor. This level to drive north of shaft, by one man, at $10 per metre: the lode is 2 ft. wide, and yields 2 tons of ore per fathom. The winze sinking below the 140 north has been suspended, as it is at the required depth for the 150; it will take us three or four months to communicate the 150 end north with this winze, as the ground is very hard. The 130 to drive north, by one man, at $12 per metre; the lode is 2 ft. wide, yielding 1 ton of ore per fathom. A cross cut to drive east at the 60, south of shaft, by one man, at $12 per metre. The rise in the 40 and the 30 north has been suspended for want of ventilation; I must get it dialled, and then sink from the bottom of the 30 to communicate with the rise. I have five men stoping in back of the 150, south of shaft. Our production for April is 621·50 quintals of 28 per cent.—Checo: Price's shaft-winze sinking under the 80, by one man, is down 11 metres, and I am glad to say the little improvement continues; the lode at present is 2 ft. wide, yielding about 2¼ tons of ore per fathom, and looking promising for a further improvement; this winze is sinking at $10 per metre. The winze sinking under the 50, on south lode, by one man, is down 7 metres: the lode is about 3 ft. wide, and increasing in value; at present it is producing fully 4 tons of ore per fathom, and leaving good stoping ground in both ends of the winze. In the stopes in back of the 50, stoping by four men, the lode has improved a little, at present yielding from 3 to 4 tons per fathom. We have driven the 40 east, on north lode, about 8 metres on the course of the lode, but I am sorry to say there is yet no improvement; the lode continues about 3 ft. wide, yielding mundic and stones of ore.

UNITED MEXICAN.—Advices from Mr. Hay, dated Guanaxuato, May 28. Mine of San Cayetano de la Ovejera: In San Lazaro we have driven in the fortnight, to May 24, 3·04 metres, making a total on last Saturday of 36·24 metres. Since the beginning of last week we have driven in a south-westerly direction by the advice of Mr. Rocha in order to cut as soon as possible the lode we are looking for, and get through the very hard rock we are traversing—probably the bajo of the lode, though no water is coming away from it. In the winze of San Pablo we have driven in the fortnight, to May 24, 4·35 metres, making a total of 47 metres. In this pozo we are sinking diagonally towards the lower wall of the lode. The strip of ore to the alto has finished, and the ore that was spread over the breadth of the vein in this working has nearly entirely disappeared. In Santa Margarita, to the bajo, the ore is 50 centimetres broad. In the winze of San Antonio we have driven in the fortnight, to May 24, 2·60 metres, making a total of 22·46 metres. In the upper part of the lode the good ore is about 9 in. wide. The lode has been traversed, and measures 1½ metre between the walls and in the ore, but as we have to keep up the alto the stoping is at times postponed until the upper part is secured. The end to the east of this winze is in ore on a width of 2·20 metres, and is of a pretty equal class. In the cross-cut of Los Angeles we had driven on the 24th of May 2·55 metres, making a total of 4·80 metres. This working has been stopped until by cutting the lode in San Lazaro we see what is to be done next. The extraction of ore during four weeks ending May 24 was 1432 cargas (a carga is 380 lbs.), and the value of the company's share amounted to $3326.

ISABELLE (Gold and Silver).—Lewis Chalmers, June 2: I send you herewith foreman's report for last week. At last we are through the gravel, and this morning the whistle sounded again for drill men. Seeing we had only 16 machine-drilled shot holes during the month, and heavy timbering, our record of 125 ft. (during the month) is not bad. The pipe referred to in foreman's report will save much steam, and consequently wood and repairs to pumps. You may expect a better record this week if all goes well.—Foreman's Report: I herein submit my report for the month of May. Total distance from monument to face of tunnel 327 ft.; tunnel run in May 125. We have put in ten sets of timbers covering 45 ft. I may state we are about through the gravel, and I think will start machines on Monday, June 9. We fired 16 machine shots, average distance of shots 5 ft. We will put on night shift as soon as we start machines, and with no set backs am in hopes to report speedy progress, and would have done so this month but for striking this gravel channel, which very much surprised us all. There is nothing that I can see at this date to prevent the tunnel advancing rapidly. I am digging trench for pipe that I suggested in my last month's report. I have made some few changes in our pipe connections between steam and air while the machinery has been idle.

SENTEIN.—June 21: The manager reports as follows:—Some of our miners have been engaged in clearing away the snow between the houses at Bentillou and the mine during the week, consequently we have not broken our average quantity of ore; we have, however, raised about 90 tons of first-class mineral. There is no change whatever to report in either of the stopes or ends. We shall not be able to increase our staff of miners for some little time, as we shall require the use of our tramroads night and day bringing out ore for the wagons, and we have no more room in the mine to lodge an increased quantity of ore. We are much gratified to tell you that at last the road is completely open, and on Monday next we shall commence to bring down ore, when no time will be lost in preparing a cargo for market. The masons have made rapid progress during the week in building the masonry to carry the stonebreaker, &c. The wheel-pit, the drain to take the water from it, and the leat to bring the water to the wheel completed. Next week we shall commence to erect the wheel and the machinery in connection therewith. We enclose you a statement of ore raised and dressed for market to date. The total quantity of ore raised to this date is 3055 tons.

PESTARENA UNITED.—June 23: District Pestarena: In the 33 end, north of old cross cut on No. 5 lode, and in the 55 end north under Acquavite old mine, we have an improvement. All other points are much the same as when last reported. —District Val Toppa: The lode in the end of No. 1 level on the western lode has improved. All other places not mentioned are much the same as when last reported on.

THE WEEK.

SATURDAY, JUNE 21.—Business was again mainly confined to Egyptian bonds, which were again very firm. The Unified rose 1⅛ (50⅛ to 50⅜), and the Preference ⅜ (71⅛ to 71½). Erie Second Mortgage and the Five per Cents. advanced to 75. The railway market was depressed. Dover, A, and Brighton, A, remained depressed at 113, and Great Eastern receded to 59¾. The report of the Mexican Railway Company states the net earnings for 1878 to have been 284,831l., and last year's increase in traffic has been more than continued this year so far. The report adds, "The first preference shareholders are in a position to look for a dividend." These shares at 7 and 7½ (20l. paid) have been recommended from time to time in this article.

MONDAY.—So convinced on Saturday were many of the dealers that a few hours would see the end of the Khedive's misgovernment that they remained in the street up to a late hour, bidding 51¼ for the Unified, and offering 1 per cent. for the "call" to day. This morning when it was known that the Khedive had declined to adjudicate the price for Unified was only 49¾, and the amount paid for the "call" was lost too. The American market showed great strength. Erie Second and the Fifty Per Cent. were run up from 75 to 77.

TUESDAY.—Egyptians Bonds showed some recovery on the day, the Unified reaching 50, and the Preference 71¼. Mexican, 10⅛ to 10⅜; Bolivian, 35½ to 36; Turkish Fives, 11⅞ to 12; ditto, 1873, 13⅜ to 13⅝. Railways were very dull, and many accepted extremely low prices rather than carry over to-morrow. Brighton, A, and Dover, A, each closed below 112. A large business was done in Canadian, American, and foreign railways generally. Grand Trunk, First, 46¾ to 46⅞; Sardinian Preference, 6¼ to 6⅜; Mexican, 1⅝ to 1¾.

WEDNESDAY.—A very dull tone prevailed for railways; owing to the failure of a jobber operating for a rise, Brighton A at one time fell to 111½. North-Eastern from being 133½ in the morning declined ultimately to 132. Turkish Fives, 11⅝ to 11¾. Mexican, 10⅛ to 10⅜. Bolivian, 6¼ to 37⅛. Foreign railways were a good market, especially Mexican. Erie Five per Cent. and Second Mortgage rose to 77. A large business continues to be done in Royal Swedish, Varna, and Royal Sardinian.

THURSDAY.—The most marked alteration during the present account has been, of course, in Egyptians. In the middle of the month Unified were continued at 44¼, and Preference at 63⅝. This time the making up prices were 50¼ and 72¾ respectively. Railways have all lost ground: In Caledonian the decline has been from 100⅛ to 97, and in Brighton, A, from 113¾ to 111¾. Eberhardt, 3¼; Richmond, 7⅞ to 8⅛; Wheal Crebor, 3¼; Ten Pedro, 18s. to 20s.

FRIDAY (*Opening*).—Bolivian Bonds have taken a great jump from last night, and are quoted 39½ to 40, or 3l. better. Egyptian Preference have improved ⅜ (to 73¼), but Unified are ⅛ lower (at 49¾). A few dealings took place at first in Brighton, A, at 111¾, but the stock soon fell to 111¾. Ottoman Defence, 60 to 61. Turks 1871, 58½ to 56½. Varna Obligations, 7 to 7¼. Mexican, 9¾ to 10. Mining shares are neglected. Parys Copper Corporation, ⅜ to ½. East Van, 1¼ to 1⅜. Glenrov, ¼ to ⅜. Penstruthal, 3s. to 5s. Antioquia, ⅜ to ½. Frontino, 2 to 2¼. New Zealand Kapanga, ¼ to ⅜. —*Two o'Clock.*—No important change has taken place. Egyptian Preference, 2⅞ to 3⅛. Unified, 49¾ to 50. Turkish Fives, 12⅛ to 12¼. Ottoman Bank, 10 7 16ths to 10 9-16ths. Rio Tinto Seven per Cent., 16¾ to 17¼; ditto Shares, 4 to 4¼. New Quebrada, 2 to 2¼. Nouveau Monde, 5-16ths to 7 16ths. Mercantile Bank, 2 to 2¼. Odessa Waterworks, 4 to 5. Mexican Railway, 1½ to 1¾; ditto First Preference, 7 to 7½.—*Four o'Clock.*—Egyptians gave way towards the close, the Preference relapsing to the price of last night, while Unified receded to 49¼. Turks remained fairly firm, the Fives, Deference Loan, and 1871, all leaving off at an advance. Sheffield and Caledonian closed ¼ down. United States Rolling Stock, 14¼ to 15¼; Chapel House Colliery, 1¾ to 1¼; Newport Abercarn, 4 to 4½; Bilston and Crump, 2 to 2½; Don Pedro, 18s. to 20s.; Richmond, 8 to 8¼; Devonport and Tiverton Brewery, 4¾ to 5¼.

FERDINAND R. KIRK.

EXCURSIONS IN THE SCOTTISH HIGHLANDS.—It has often been remarked that many spend their annual holiday on the Continent, and put themselves to much unnecessary expense and inconvenience to search for attractive scenery, although in the Scottish Highlands the views are grander, and far more pleasure is obtainable at the same cost; but this, no doubt, is attributable to the few attempts that have been made to popularise Scottish excursions, whilst continental tours have been constantly advertised at fixed charges, not unfrequently including hotel expenses, so that the pleasure-seeker can determine, within a sovereign for cigars and matches, the exact outlay which he will have to make. An effort has now been made by Mr. David MacBrayne, the owner of the Glasgow and the Highlands Royal Mail Steamer fleet, to alter this state of things, and thus place the Highlands and the picturesque islands of the West of Scotland within the reach of the tourist upon as favourable terms. With this view he has issued, in the form of a twopenny pamphlet, an official guide from Glasgow to the Highlands by the Royal route, *viâ* Crinan and the Caledonian Canals, with lists of sailings and fares. The pamphlet, in addition to the ordinary business information, contains a complete account, historical and otherwise, of all the places passed or worthy of visiting, and is, therefore, interesting, not only to the intending tourist, but to the general reader.

DIED.—On June 21, at Dornoch House, Overton, Frodsham, in the 71st year of his age, Mr. JOHN FRASER, secretary to the Minera Mining Company (since its formation) for a period of 28 years. As a testimony of appreciation for his faithful, zealous, and efficient services during his secretaryship the shareholders granted him an annuity which commenced last Christmas. It will be some consolation to his bereaved widow and family to reflect that throughout a long business life he enjoyed the regard and esteem of all with whom he came in contact, and that his kindness, gentleness, and amiability will be long remembered by his many friends, who deeply sympathise with his widow and family in their great bereavement. "In life beloved, in death lamented."

HOLLOWAY'S PILLS.—The extraordinary range of temperature prevailing in our climate is extremely trying to the delicate-chested, the weak, and nervous. All troubled by these afflictions should resolve to resort to this strengthening and regulating medicine immediately they perceive in themselves discomfort or that feeling of restlessness which betokens disordered digestion and defective secretion of bile. One of Holloway's pills taken about noon and followed at bed-time by a dose sufficiently large to act aperiently will speedily recruit the faulty functions and restore order throughout the whole system. A treatment so safe in operation, and so successful in result, should be known and practised when, from cold and sundry other causes, disease is attempting to gain a vexatious footing.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Depression of Trade, Probable Revival, New Process affecting Steel Manufacture, and the Iron Mining Districts of the United Kingdom: The Coal Trade, and Colliers' Wages: Mining Legislation: Ochre: Sheffield Pig-iron: Utilisation of Sulphides as Fuel (L Simonin): Treatment of Copper Sulphides: Eberhardt and Aurora Mining Company: Ruby Mining Company: The Science of Mining (R. Knapp): The Mining Interests—Stagnation (R. Tredinnick): Miners' Wages—the Premium System: Home Mining: Roche Felspar Works (T. R. Parkyn, jun.): Jigging Machinery at Wheal Jane: Rookhope Mine: Mining in the Llanarmon District. Meetings of Public Companies: Nerbudda Coal and Iron: St. John del Rey: Prince of Wales: Bank of Ireland and the Prussian Mining and Ironworks Company. Copper Ore Sales. Combined Stone-Breaker and Crushing Rolls (*illustrated*).

TO THE METAL TRADE.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 27, 1879.

IRON.	£ s. d.	£ s. d
Pig, GMB, f.o.b., Clyde..	2 0 8-	—
,, Scotch, all No. 1 ...	2 2 0-	3 5 0
,, Welsh, f.o.b. Wales	4 12 6-	—
,, ,, in London.	5 2 6-	—
,, Stafford., ,, .	6 5 0-	7 0 0
,, in Tyne or Tees ...	5 5 0-	5 10 0
,, Swedish, London ..	8 2 6-	8 5 0
Rails, Welsh, at works..	4 10 0-	—
Sheets, Staff., in London	7 5 0-	7 15 0
Plates, ship., in London	5 12 6-	—
Hoops, Staff. ...	6 10 0-	7 2 6
Nail rods, Staff. in Lon.	5 15 0-	6 5 0
STEEL.		
English, spring	13	0 0-19 0 0
,, cast	30	0 0-40 0 0
Swedish, keg....	13	0 0- —
,, fag. ham.	15	0 0- —
LEAD.		
English, pig, common...	13 7 6	13 10 0
,, ,, L.B.....	13 15 0-	—
,, ,, W.B.	14	0 0- (nom.)
,, sheet and bar..	14 5 0-	—
,, pipe	15 0 0-	—
,, red	15 15 0-	—
,, white	25 0 0-	—
,, patent shot ...	18 0 0-	—
Spanish	13 5 0-	—
NICKEL.		
Metal, per cwt	18	0 0-20 0 0
Ore, 10 per cent. per ton.	24	0 0-26 0 0
QUICKSILVER.		
Flasks of 75 lbs., ware..	6	0 0- —
SPELTER.		
Silesian	14	0 0- —
English, Swansea	16	0 0- —
Sheet zinc	18	10 0- 19 0 0

TIN.	£ s. d.	£ s. d
English, ingot, f.o.b...	64 0 0	—
,, bars ,, ...	65 0 0-	65 10 0
,, refined.....	66 0 0-	—
Australian	65 10 0-	—
Banca ..... (nom.)	67 0 0-	—
Straits	65 10 0-	—
COPPER.		
Tough cake and ingot.	60 10 0-	—
Best selected	61 10 0-	—
Sheets and sheathing.	65 0 0-	—
Flat Bottoms	69 0 0-	—
Wallaroo	62 10 0-	63 0 0
Burra, or P.C.O.	62 0 0-	62 10 0
Other brands	61 0 0-	62 0 0
Chili bars, g.o.b.....	55 15 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£105	0 0
Other alloys	£110 0	0- 125 0 0
BRASS.		
Wire	7	d.- 7½d.
Tubes.....	7¼	- 7½
Sheets	8	- 8¼
Yel. met. sheath. & sheets.	5¾	- 5½
Nails composition.....	7¼	- —
TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 1 6-	1 2 0
,, 2nd quality ...	1 0 0-	1 1 0
Coke, 1st quality	0 17 6-	0 18 6
,, 2nd quality	0 16 0-	0 17 0
Black .....per ton	16 0 0-	16 10 0
Canada, Staff. or Gla., at Liverpool	11 0 0-	12 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The business that has been transacted during the first half of the present year, although below the average of former years, yet shows some slight improvement upon what it was during the latter part of last year. At the same time the increase has not been sufficient to enable sellers to obtain higher prices, with the exception of tin, in which a further recovery temporarily took place, but which has since been partially lost. The business transacted is not satisfactory, on account of the small margin of profit, and in too many instances sellers have been obliged to submit to wholly unremunerative prices. There are evident signs, however, of a slightly better feeling existing generally, and with renewed confidence it is to be hoped that business will soon resume its ordinary character and dimensions. The excessive competition and the over supply are the chief causes of the depreciation. Producers are hard to convince that the fault rests in a great measure with themselves. They will still persist in overloading the market at a time when it can least bear it, and while it remains in a sensitive state. The overwhelming stock is the great incubus from which the markets are suffering, and there can be no permanent improvement in value until supplies are sufficiently curtailed to enable stocks to be much reduced. It is, therefore, useless to look for enhanced prices yet awhile, as there is no appearance of any sensible falling off in supplies, and the next month or two is generally a quiet period of the year, and any further abatement in the demand would undoubtedly lead to an accumulation of stock.

The alterations which have taken place in prices have mostly been so gradual that at the time they have been hardly felt, and this would almost imply that a slight advance would form little or no impediment to the demand. Quotations have been lowered to such an extent that it will require a vast improvement in the demand to again set them on a level with even the moderate rates ruling a year or two back, and owing to the increased facilities of production and transit it is very doubtful now whether prices for some metals will ever again reach as high a position as that touched in former times. Low prices and an easy money market, which in ordinary times would have encouraged speculators to operate to a considerable extent, now cease to exercise any influence whatever, and our markets are not only suffering at the moment from inactivity, but they are likely so to continue for some little time to come, for reasons above stated. Unless some diminution in the production is made at once to encourage buyers to come forward and purchase freely lower prices may have to be submitted to.

COPPER.—Sellers continue firmer in their quotations, and were it not for the unsatisfactory turn which the Indian Exchange has taken slightly better prices might ere this have been obtainable. It seems almost as though the fate of the market for this metal is doomed, for whenever there has been any chance of a little spurt taking place in prices something has invariably turned up to check the advance. From time to time there has been many false starts to secure higher prices, but sellers have never since the downward turn commenced succeeded in maintaining any advance more than for a very short time, but have constantly had to return to their former rates. It is greatly to be hoped, however, that the attempt at a rise which is now being made will not be altogether fruitless, and that advanced rates may soon be established throughout the trade, for up to the present time the only consolation left to sellers is that owing to the reduced prices quotations must have declined to about their minimum. It rests, however, mainly with producers: if they restrict their future production then higher prices will soon be brought about, but if on the other hand they continue to send forward supplies as freely as they have been doing then doubtless lower prices ere long will have again to be accepted. At the public tendering held last Tuesday at Swansea 1,788 tons of ore was sold at an average of 10s. 8¾d. per unit.

IRON.—There is still but a small business transacted in this metal by English makers, and during the week no marked alteration has taken place in prices, either in manufactured or for the raw material, the latter, however, still tending downwards. The demand for home consumption shows no improvement any more than the export, but if there is any difference perhaps it is more in favour of the shipping trade; however, the large margin that still exists between foreign and English will effectually prevent any marked improvement in English, and prices must more nearly assimilate before any favourable change can take place in England. The returns from the various districts remain unsatisfactory, and show that the trade throughout the whole kingdom keeps in an almost stagnant condition, for it is not merely from one or two districts that the markets are reported dull, but all are unanimous in their complaints of quietude; for instance, we learn from Leeds that not only is there no improvement in the trade at present, but also that there is no prospect yet awhile of any increase in the number of orders, and consequently no advance can be expected to take place in prices. A limited number of enquiries come to hand for the best Yorkshire iron, but they are so few that they are hardly worthy of note.

Owing to the constant failures which have taken place at Sheffield, the markets in this part of the country have kept rather unsettled, and a marked want of confidence is observable, and it is thought by some that many firms which are now going are in such financial difficulties that they will be unable to keep in operation much longer. Orders which mostly come to hand are for sheets, plates, and rails, but they are executed at such low prices that they yield little or no profitable return, and are, therefore, by many not over appreciated. There is no change to be reported from Birmingham, the demand remaining in a dull and sluggish condition, and prices without showing any change. The men are receiving such low wages that it is reported many of them are considering the advisability of going out on strike unless masters will somewhat advance their earnings.

There is very little change in the general condition of the markets at South Wales. There is scarcely any demand for rails, and the market for this particular description of iron is suffering very much from the manufacture of steel rails. Enquiries for bars come to hand slowly, and the demand is not equal to what it was a few weeks back. Clearances have been rather larger, the greater exportations having been made to India. Prices have remained nominal, and present enquiries do not justify any hope of increased rates being obtainable for some time to come. The Middlesborough market is reported very quiet, and as remaining in a dull and unsatisfactory condition, and makers have the greatest difficulty in obtaining the official quotations, merchants positively refusing to pay more for pigs than 43s. for No. 3 and 31s 9d. for No. 4; and transactions at even lower rates than these are said to have been carried through, but orders are very scarce, and consequently there is very little business doing. There is not much change to the stock in Connal and Co.'s store, for it is stated that there are now about 79,000 tons. Shipments to foreign ports continue small, nevertheless it is satisfactory to be able to state that the deliveries to Scotland are maintaining a fair average, but unless the Glasgow rates very much improve it is not expected that they will be maintained much longer.

Both the demand for home and shipping account is very limited, the latter suffering greatly from the reduced number of enquiries from the Continent. In finished iron there is next to nothing doing, so quotations are merely nominal. There is little activity at the works that supply manufactured, and plates are still at 5*l.*, and bars at 2s. 6d. per ton less. Angles are quoted 4*l.* 17s. 6d. to 5*l.* per ton, but there is not much doing at even these low rates. Although the Glasgow warrant market was slightly steadier towards the end of last week, on Monday it opened very flat, business for cash parcels having been transacted at 41s. 1d. to 41s. 2½d.; but on Tuesday there was rather more doing, but prices did not advance above 41s. 1d.; to-day's price being again reduced to 40s. 8d.

SHIPMENTS.

For the week ending June 21, 1879	Tons	7,278
For the week ending June 22, 1878		6,326
Increase		952
Total increase for 1879		53,079
Imports of Middlesborough pig-iron into Grangemouth:—		
For the week ending June 22, 1878	Tons	6,910
For the week ending June 21, 1879		6,784
Decrease		126
Total decrease for 1879		30,257

FURNACES.

In blast June 21, 1879	88
In blast June 22, 1878	92

TIN.—This market remains entirely void of animation, and prices show a drooping tendency. A few months back it appeared to be the only metal that offered any prospect of an advance in value, but now that chance seems to have vanished, and purchasers, fearing that forced realisations may have to be resorted to, merely buy on the hand to mouth system. As in other metals, producers of tin have to thank themselves for the unfavourable change which has come over the market, for they still persist in sending forward supplies in excess of requirements, and this prevents any reduction in stocks taking place. If producers failed to see the utter folly of overloading the market in the past, they cannot be blind to it now, for prices are sinking lower and lower every day, and it is very evident that unless they curtail their supplies without further delay lower rates will have to be accepted, and it will require great care even to prevent prices receding to the low figures touched at the early part of last autumn.

LEAD.—This market keeps very dull, and prices are unaltered. Buyers remaining scarce, makes both the home and shipping demand almost lifeless.

SPELTER.—Low prices have long since ceased to form any temptation to buyers to effect contracts, and sellers have again reduced their price for Silesian 10s. per ton in the hope of finding more purchasers.

STEEL.—Quotations are slightly weaker.

TINPLATES.—A limited number of transactions are reported, at former rates.

QUICKSILVER is unchanged in price, and there is very little demand. The last Californian advices indicate a further decline of 1½ cent.

PENZANCE (Thursday).—The smelters have to-day reduced the tin standards 2*l.* per ton. The standards now are—Superior common, 56s. per cwt.; superior fine, 57s. per cwt.

Messrs. PIXLEY and ABELL.—GOLD: The arrivals continue large, and, as there has been no demand whatever for the Continent, the Bank has purchased the large sum of 581,000*l.*, and further amounts have yet to be sent in. We have received during the week—17,570*l.* from New Zealand, 170,000*l.* from New York, 478,240*l.* from India and China, and 28,210*l.* from West Indies and Brazils: total, 694,020*l.* —SILVER has again declined. The market became weaker after the date of our last circular, and for the amount by the Pacific steamer only 51¾d. per oz. could be obtained. Continental orders are now more than sufficient to carry off all arrivals, and prices remain firm at 51¾d. to 51 11-16d. per oz. standard. The amounts to hand during the week comprise—42,000*l.* per Sorata, from the Pacific, and 51,000*l.* per steamers from New York. The P. and O. steamer takes 10,000*l.* to Bombay this day.—MEXICAN DOLLARS: A few have come to hand during the week; but the demand has not been very active, and the rate has consequently declined. We quote 51½d. per oz. as the price. The P. and O. steamer takes 24,490*l.* to China and the Straits.

The settlement of the fortnightly account in the MINING SHARE MARKET has been very heavy this week, and has occupied the chief attention of the dealers. The market, on the whole, has been weaker as to prices, and not much business doing, except in a few prominent mines, including Wheal Crebor, South Frances, Parys Corporation, Wheal Grenville, Wheal Peevor, Roman Gravels, East Lovell, and a few others.

TIN.—Although the same sanguine feeling has continued to exist among miners that tin would rise again some day or other; the standard for ore has been further reduced 2*l.* per ton this week, and the demand for tin shares is extremely limited, with merely nominal quotations. Dolcoath is quoted 24 to 26; Tincroft, 8 to 9; Carn Brea, 24 to 26; South Francis shares are weaker at 8 to 8½; Wheal Peevor, 9½ to 9¾; at the meeting here on Tuesday next a dividend of 10s. per share will, we understand, be declared, and a good report is expected. West Peevor, 3 to 3½; the Wheal Peevor lode was cut on Tuesday of a very favourable character. Cook's Kitchen, 1¼ to 1⅜; at the meeting on Thursday the accounts showed a loss on the four months' working of 918*l.*, and a balance against the mine of 3374*l.* 17s. 4d. A call of 10s. per share was made. The tin sold realised 2792*l.* The 320 level has much improved within the last 30 fms. driven; the prospects in this direction are considered favourable, though with the present price of tin the agents do not see their way to pay costs. West Frances, 4½ to 5; at the meeting here a call of 5s. per share was made. The accounts showed a loss of 749*l.* 10s. on four months' working, and a debit balance of 4133*l.* 11s. The agents still hope to meet with the flat lode in the 132 cross cut. East Lovel, 20s. to 25s.; East Pool, 9 to 9½; Penstruthal, 3s. 6d. to 4s. 6d.; South Condurrow, 11½ to 12; West Basset, 3½ to 4; Wheal Agar, 3½ to 4; Wheal Basset, 20s. to 25s.; Wheal Grenville, 3¾ to 4¼.

COPPER seems firmer, but, with the exception of one or two prominent mines, there is scarcely any business doing in shares, and prices are merely nominal. Devon Great Consols, 1⅞ to 2. Wheal Crebor kept pretty quiet and firm until the settling day, when they gave way, owing to the heavy speculative account in them, to 2½, 3, and leave off 2⅞ to 3¼; the mine is reported as looking better than ever. The agent states that the lode in the 120 east is 5 ft. wide, worth 35*l.* per fathom. New discovery in stope, 30*l.* per fathom. The 108 east 25*l.*, and lode in winze below the 108 50*l.* per fathom. A meeting has been called for July 3, when a call of 2s. to 2s. 6d. share will be made, and which, it is hoped, will be the last, if the present value of the lode continues. Parys Corporation have been largely dealt in at 10s. to 12s. 6d. Morfa Du, 16s. to 18s.; Marke Valley, 10s. to 12s. 6d.; Mellanear, 3½ to 4; West Seton, 11 to 13. West Tolgus, 20 to 22½; at New Cook's Kitchen meeting a call of 5s. per share was made. The accounts showed a debit balance of 1153*l.* 8s.; the loss on four months was 593*l.* In the 136 fm. level east the lode is worth 4 tons of copper ore per fathom.

LEAD continues flat, and business in shares is extremely limited at mere nominal prices. Van, 16½ to 17½; the monthly sale of ore realised—400 tons of lead, 3725*l.*; blende, 150 tons, 288*l.* A dividend of 5s. will be declared next week. Great Laxey, 15 to 16; Roman Gravels, 8¼ to 8½ Tankerville, 2⅞ to 3; the sales of lead ore, 105 tons, realised 841*l.* South Darren, 1½ to 1⅝; the sale of ore, 50 tons, realised 13*l.* 13s. per ton—682*l.* 10s. Aberllyn, 10 to 11; Bettws-y-Coed, ¾ to 1; Bodidris, 1¼ to 1½; Denbighshire, 1¼ to 1⅜; East Van, 1 to 1⅛; Gorsedd and Merllyn, 2½ to 3; Great Holway, 4½ to 5; Herodsfoot, 2½ to 3; Leadhills, 1¾ to 2; Minera, 9½ to 10½; West Holway, 1 to 1¼; West Chiverton, 2½ to 3; Gwernymynydd, 4 to 4¼; Caron, 2 to 2½; Frongoch, 1⅞ to 2; Grogwinion, 2½ to 3; Hartington, 1½ to 2; Mawston, 1½ to 2; Red Rock, 1⅞ to 2⅛; St. Harmon, 1 to 2; West Wye Valley, 1 to 1⅛. Wye Valley, 1¼ to 1⅜; this mine sold 40 tons of lead ore on the 20th, at 7*l.* 16s. 6d. per ton. West Pately, 1⅜ to 2¼. Pateley Bridge, ⅝ to ¾; the various ends are looking well.

FOREIGN MINES.—Arendal, 3 to 3⅛; Cape Copper, 27½ to 28½; Canada Gold, 2 to 2⅛; Colorado, 1⅛ to 1⅜; Don Pedro, 18s. to 20s.; Eberhardt and Aurora, 2⅞ to 3⅛; Frontino, 2 to 2⅛; Hultafall, 1⅛ to 1⅜; New Quebrada, 2 to 2⅛; Richmond, 8 to 8½; Santa Barbara, 35s to 40s. Ruby and Dunderberg, 2½ to 2⅝; Capt. Rickard, of the Richmond Company, in his report received this day, says, "I consider that the property of the Dunderberg Company is in no way diminished in value by the ore already extracted. The ground contained within the boundary lines is comparatively intact. No work has been done in the western ground all the length of the claims, and certainly, taking the 'Home Ticket' into consideration, this part of the property promises to compensate largely for the amount of capital necessary for its development. The amount of capital necessary for the work which he proposes would be about $50,000, Blue Tent, 2¼ to 2⅜; the washing steadily progresses, and water abundant. Placerville, 2½ to 2⅝; mine still opening out rich quartz.

The Market for Mine Shares on the Stock Exchange has not maintained the improvement noticed at the close of last week, but a fair amount of business has nevertheless been done. The long-continued depression has frequently been attributed to the constantly increasing number of mines, either worked out or tested and proved valueless, which are kept open for the sake of directors' fees, secretaries' salaries, and office expenses, to the great prejudice of *bona fide* investors. With the present position and prospects of the metal markets, the reconstitution and attempts to bolster up languishing concerns cannot but lead to disappointment to all who are thoughtless enough to provide fresh funds, whilst the bad effect of the system on the mining interest generally is that the reputation of mining as an investment is injured, because the average profits of the mines on the market is found to be under 2 per cent., whilst the average of the mines, good and bad, worked by those who depend upon the yield of mineral, and not upon share-dealing for their profit, show considerably over 20 per cent. profit; indeed, it has been confidently asserted by those whose experience should entitle them to consideration that more than half the mines in Cornwall, in Wales, and in many other districts, would yield 50 per cent. profit upon an ample working capital, though from the excessive charges for management, superintendence, and promoters' profits dividends are scarcely heard of in any of them; and the general system of placing concerns on the market, and of raising fresh capital, has become so vicious that capitalists are so thoroughly frightened of everything that all suffer. It seems that the system complained of, like the Limited Liability Acts, is of American origin, although it is now almost ignored there, and being pretty well played out with English capitalists has for some time past been tried in Paris and elsewhere on the Continent. Referring to the subject the Credit National says, that "companies are concocted and manufactured which have not at the bottom anything in conformity with the law of 1867. No one joins but subscribers of passage, who are often insolvent, to whom it is necessary to advance temporarily the amount of their subscriptions. They do not see any inconvenience in this, from the belief that the purchaser at second hand will come in, and even permit them to impose monstrous premiums. But these pigeons of passage whom they hope to catch on the wing do not come in at all. Yet there is only one thing that could happen. The promoters and their accomplices might be brought to justice." But capitalists have much to blame themselves for, as they too often fail to support promising projects honourably put forward, and they lack the courage—essential to successful mining—to abandon the mines which yield them no profits, and in which the directors and secretaries are constantly crying for more money, and content themselves with the high rate of interest which the remainder would give them upon their entire investment. It is the endeavour to recover spilt milk which alone leads to losses in mining.

Penstruthal, 2s. 4d.; the meeting is convened for Wednesday. A shareholder writes that he believes Mr. Waddington's scheme respecting the mine to be a good one, but I would suggest what he thinks would be equally good, and would doubtless receive greater support from the shareholders—that each shareholder be asked to contribute the sum of 6d. or 1s. per share, as may be deemed necessary. This on 50,000 shares would bring 1250*l.* or 2500*l.*, and would place the company in a sound financial position, without parting with any portion of its property.

Canada Gold, 2 to 2½; the miners are reported to have arrived out, and advices are expected from the mines by an early mail.

Tharsis, 22½ to 23½; doubt is expressed in some quarters as to whether the 16½ per cent. dividend has really been paid out of profit, but inasmuch as the company is stated to have returned to the shareholders during the last twelve years in the shape of dividends 265*l.* for every 100*l.* invested, it is obvious that at least some profits have been earned, either from mining or financing. There are, nevertheless, many curious facts. Whilst almost every other mining concern, whether in Spain or in England, have barely covered costs, yet the Tharsis company, not more favourably situated, shows a profit of 199,728*l.* on the handling of 235,803 tons of pyrites and 226,336 tons of iron ore—that is to say they earned a profit of over 8s. 6d. per ton upon every ton of mineral invoiced. The directors, moreover, state that the company were to pay for the French company's assets 762,224*l.*; but they add that the Tharsis shares being valued at 24*l.*, there is a premium accruing of 331,324*l.*; this is treated as profit, but it is supposed to be imaginary only, and outsiders cannot be induced to buy the shares at the present quotation of over cent. per cent. premium until it is demonstrated that this imaginary 331,324*l.* has not been used to show the 199,728*l.* profit. It is this feeling that leads many to declare that although the 16½ per cent. dividend was declared, there was really a loss of 130,000*l.* These are points that should be cleared up.

St. John del Rey, 250 to 260; the meeting on Wednesday gave very general satisfaction. Owing to exceptional circumstances, dry weather and so on, the whole 69,954 tons of ore raised, except 400 tons used for other purposes, were stamped. The poor mineral not being rejected, a lower produce was to be expected, yet the average reached 6 oits., or nearly 14 dwts. troy for the whole mass. The directors are giving attention to Hollway's process, but are, of course, exercising due caution before adopting it; at present it is only in the experimental stage. Cuiabá promises to turn out as successful as the Morro Velho Mines. The dividend of 12½ per cent. was agreed to, and Sir J. Swinburne, Bart., was elected a director, Mr. Geo. Austin taking his place as an auditor. The directors were authorised to apply such portion of the uninvested reserve to the development of the Cuiabá Mine as they might deem desirable. The latest telegram from Morro Velho, dated Rio de Janeiro, June 23, states that the produce for the first division (11 days) of June was 13,000 oits., of the value of 5637*l.*, the ley of the ore being 6·1 oits. per ton. The profit for May was 7000*l.*

Richmond, 8 to 8½; the usual telegram from the mines at Eureka, Nevada, showed that the week's run was $60,000, from 1035 tons of ore. During the week the refinery produced doré bars to the value of $45,000. The manager writes that the Burleigh drill has been delayed through two boilers being under repair. The No. 11 and No. 12 chambers are looking well and turning put the usual quanties of ore. The No. 10 chamber is not looking so well, but they are now following ore indications, and hope to develope more ore. There is no change in any other part of the mine.

The Ruby Consolidated is said to have been registered as the Ruby and Dunderberg, and certain dealers are offering the new shares for sale, but they are not freely taken. Some doubts are likewise expressed as to whether the Rickard who was said to be "arranging," and has since arranged, a report upon the property is indeed the Rickard of the Richmond, as it is thought that he is not a man who would so far forget his duty to his employers as to undertake reporting upon other mines without the authority of the board. If it be he it would account for the caution he is inferred to be exercising before deciding what he will sign. Richmond shareholders should at once call upon their directors not to let their mine remain in the hands of anyone who cannot afford them his whole time and knowledge whilst he is receiving salary from them. It is hoped by Mr. Rickard's best friends that he is not the reporter alluded to; not that anything is known against either the Dunderberg or the Home Ticket Mines, but because the publication of such a report would place Mr. Rickard in a false position and be most annoying to the Richmond shareholders.

In Hydraulic or Gold-Washing Company's shares somewhat more business is reported, and quoted prices are more readily obtained. Blue Tent, 2 to 2½; work is progressing very satisfactorily at the claim where operations are being carried on. A considerable extent of bottom gravel has been uncovered at the South Yuba claim, and will be dealt with during the remainder of the washing season. Birdseye Creek, ¾ to ⅞; steady washing is being carried on at the Neece and West claim, and the agent anticipates good results from current month's work. A report will be found in another column.

Placerville, 2⅛ to 2⅜; the Chairman, at the meeting on Wednesday, said he thought the shareholders would agree with him that everything was looking most favourable, and that as far as mining experience and judgment is of avail they are developing a valuable mine, and can fairly look for a good result within a short time. The general manager's report submitted to the meeting stated that the general appearance of the mine was very encouraging; the vein was getting stronger as depth was attained, giving every indication that they could expect a good and permanent mine. He has no doubt but that the 5th level will show a great improvement over the 4th; as soon as the cross-cut has penetrated the vein he will start a winze from the 4th level; this will enable him to keep them fully and reliably informed as to the developments.

Hultafall, 1⅜ to 2¼; it is reported that 50 tons of silver-lead ore are ready for shipment, and a large quantity of blende. The dressing department is progressing, under the management of Mr. Tannatt, in a satisfactory manner. Mr. Tannatt was sent out by Capt. Williams, of Van, as an experienced dresser, and he has perfectly succeeded in dressing the ores. The mines are reported as looking rich.

Lead Mine Shares have been extremely dull, owing to the almost total absence of business in the metal; yet, considering the average produce of the lead ore raised, the cost of converting it into pigs, and the market price of the metal, and comparing this with the average produce of the copper and tin ores raised, the cost of converting them into ingots, and the market price of the metals, lead is declared to have the best chance of any; especially as the general feeling is that the price of lead is likely to improve before either copper or tin. Van, 16½ to 18½; the mine is without particular change; the 120 and 105 are as yet without ore, and the ends are being steadily pushed forward. The returns, however, are so well maintained that but for the depressed state of the lead market the profits of this mine alone would give life and energy to the whole mining industry of Wales. The month's sale was of the same amount—400 tons of lead and 150 tons of blende—as for the previous month, yet 90*l.* less money has been obtained, or 4013*l.* 15s., instead of 4103*l.* 15s. The lead realised 4s. per ton less. A profit has, however, been obtained, and a 5s. dividend will be declared next week, offering another confirmation of the opinion

that profits depend almost as much upon economy and judgment as upon the price of metals.

Gwernymynydd, 4 to 4¼; the draining of the mine at Fron Fownog to draw the pitwork has been effected down to the 10½ yard level, and they have commenced opening on the upper flat, where discoveries are expected. The cutting down the Treasure shaft at Gwernymynydd preparatory to sinking down to the known discoveries existing there has been let, and good progress is being made with the work.

Frongoch, 1¾ to 2; the latest advices from this mine fully support all that has been said in recent reports, and show that everything is being pushed forward with the utmost dispatch, whilst large reserves of ore ground are being steadily accumulated, and the lode on development continues to improve. Grogwinion, 2¼ to 3; the mine is stated to be still looking as well as ever, and the improvement in the lodes in the deep levels continues in a striking degree. Caron, 2 to 2½; the rich part of the lode at the 22 is not yet cut into, but is expected to be reached very soon, the indications of early discoveries being most satisfactory. Wye Valley, 1 to 1½; prospects are encouraging in the deep levels, the lode being of a most promising character for the production of rich lead. West Wye Valley, 1¼ to 1¾; good progress making in all deparments. Crosswood, 1 to 1½, ex div.; Mawston, 1¾ to 2; Hartington, 1¼ to 2.

Mineral Corporation, 10 to 11; the opinion of the manager has been confirmed that the main part of the lode was still standing in No. 3 adit end; they have cut into another small vein of all but solid blende. At surface everything is progressing satisfactorily, the masons' work, &c., of the crusher-house is completed, and the engineers have taken the matter in hand; they were to commence on Tuesday getting the new water-wheel up from the founday to the mine.

Pateley Bridge, ¼ to 1; the new machinery is working admirably. The Rake vein in the 30 east is 7 ft. wide; ground favourable for improvement, the end is carrying branches of ore. Fielding's vein in the 30 north-west contains a rib of ore 3 in. thick—solid. Other parts unchanged.

Subjoined are the closing quotations:—

Assheton, ⅜ to ⅝; Carn Brea, 24 to 26; Devon Great Consols, 1½ to 2; Dolcoath, 24 to 26; East Caradon, ½ to ⅝; East Van, ¾ to 1; Gwernymynydd, 4 to 4½; Glenroy, ⅜ to ½; Great Laxey, 15½ to 16½; Hingston Down, ½ to ⅝; Leadhills, 1½ to 1¾; Marke Valley, ½ to ⅝; Penstruthal, 1s. to 3s.; Roman Gravels, 7¾ to 8¼; Tankerville, 2¾ to 3¼; Van, 16¼ to 18¼; West Chiverton, 2½ to 3; Wheal Crebor, 2¾ to 3; Wheal Grenville, 3¾ to 4¼; Pateley Bridge (new), ⅝ to ¾; Almada and Tirito, ¼ to ½; Birdseye, ⅜ to ⅝; Blue Tent, 2¼ to 2½; Canada, 2 to 2⅛; Cape Copper, 27 to 28 ex div.; Hultafall, 1¾ to 2¼; Placervills, 2¼ to 2⅝; Richmond, 8 to 8¼; St. John del Rey, 250 to 260.

At the Swansea Ticketing, on Tuesday, 1788 tons of copper ore were sold, realising 10,462*l.* 14s. The particulars of the sale were—Average standard for 9 per cent. produce, 77*l.* 12s.; average produce, 10¼; average price per ton, 5*l.* 17s.; quantity of fine copper, 195 tons 3 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper
June 3	1098	£77 2 10	15 1 16	£ 8 5 2	10s. 11½d.	£54 13 9
„ 24	1788	77 12 0	10⅞	5 17 0	10 8¾	53 12 4

Compared with the last sale, the advance has been in the standard 9s., and in the price per ton of ore about 1s. Messrs. Richardson report that the Betts Cove ore gave a produce of 10 13-16, and sold at 10s. 8d. per unit; Balade, produce 16½, per unit 11s. 2d.; Caveira, produce 7⅞, per unit 9s. 11½d.; and Berehaven, produce 11⅞, per unit 11s. 6d. On July 8, 1352 tons of ore will be sold, from Betts Cove, Berehaven, Tigrony, and elsewhere.

The Master of the Rolls has appointed Mr. George Chandler official liquidator of the Railway and Public Works Contract Company.

A petition has been presented to the High Court of Justice for the winding-up of the Nissum Fiord Company.

Mr. J. S. Collmann (Frederick Huth and Co.) has joined the board of the London and Provincial Marine Insurance Company.

GOLD IN VICTORIA.—We learn from Melbourne (May 15) that considerable excitement prevails in the mining district, consequent upon the discovery of extensive quartz reefs in some alluvial workings at Ballarat.

THE COMSTOCK MINES.—English stockholders will be glad to learn that the south lateral drift from the Sutro Tunnel is already completed to the Julia shaft, and will now be extended southward. The distance from the Julia shaft to a point 80 ft. east of the Yellow Jacket shaft is 3550 ft.; then 3428 ft. to a point west of the Foreman shaft, or a total distance of 6987 ft. from the Julia. Another 120 men have been discharged from the Tunnel.

CROOK BURN.—The contract for sinking the first shaft (20 fms.) at this mine was let on Tuesday last to a partnership of lead miners in the locality. The greatest possible care has been exercised in fixing upon the place for this shaft, and it is thought probable from what is known of the veins and their underlie, &c., that a rich mine may be met with in a good sound limestone sill or rock before the shaft is sunk a depth of 12 fms. All necessary materials for the werk are on the ground, and the sinking will be begun in earnest on Monday next.

COMBMARTIN MINE.—The winze sinking below the adit level is producing good silver-lead ore, and opening ground for stoping. A sample of the ore on assay gave a produce of 75 per cent. for lead and 51 ozs. of silver to the ton. A rise is being put up over this winze for ventilation, and here the lode is also producing good silver-lead. This lode is not the main lode, to intersect which the adit level was commenced, but is entirely a separate lode. The main lode is in advance of the adit end, in which the ground has just undergone an important change, it being a congenial killas, with veins of quartz, lead, blende, and mundic, and altogether showing indications of a lode being not far distant.

HERODSFOOT MINE.—The mine is looking well, and the various points of operation are worth in the aggregate nearly 6 tons of lead ore per fathom. The new shaft is almost completed, and in about three weeks sinking on the course of the lode below the 205 will be commenced. It is said the former company drove through a course of lead 80 fathoms long in the 205, and that this ore ground is standing untouched in the bottom of the level. The new shaft will open out this run of ground deeper, and should the next level (the 220) turn out as anticipated the mine will quickly assume an important position. The present company have only been in possession of the mine for five months. For a month they could do little beyond repairing breakages and putting the mine into a proper working state, yet they have already sold 100 tons of lead ore, and another sampling will take place in about a month.

NORTH BUSY.—Capt. White (of Wheal Peevor) has inspected this mine, and we understand his report is very favourable. A fairly good discovery would, no doubt, cause these shares to have a sharp advance in price.

ROCHE FELSPAR.—The spar in the two new drifts continues to spread. The western drift seems to be a solid mass of spar, cropping up close to surface. In the eastern drift the men are raising and sending to the dressing-floors large quantities of splendid spar. We are shipping 100 tons for the Continent. The inclemency of the weather retards our progress in raising spar from the quarry.

HOLIDAYS IN MINES.—The system instituted at Devon Great Consols of holding the setting and paying the men on one day has been adopted at Phœnix United Mines, South Caradon, and other mines in the Caradon district. There was no objection apparently amongst the miners on Saturday to the new rule.

ELECTRO DEPOSITION OF METALS.

Several important improvements in dynamo-electric machines that may be used for all purposes for which such machines are now employed have been invented by Mr. G. ZANNI, of Highbury, and he provides apparatus specially applicable for the electro deposition of metals, whereby he is enabled to regulate with great ease and simplicity the strength or depositing power of the current in the bath according to the number or size of the articles to be covered, thus ensuring an equally good effect under varying circumstances—a result very difficult to obtain with the machines and appliances heretofore used. He constructs the machine with a series of stationary electro magnets, each composed of a soft iron core surrounded by wire coils, and placed within a metal—by preference case-hardened steel—frame. The soft iron cores are hollow, to provide for the passage of a current of cold water through them to keep them cool. The electro magnets thus formed are attached to the interior circumference of the case of the machine, being arranged in circular order. The rotary coil of the machine is composed of a soft iron ring made in segments, and around each of these segments he winds a quantity of insulated copper wire. The ring is attached to the shaft of the machine, and revolves within the circle formed by the stationary magnets. The segments of the ring are formed with tongues and grooves, so that they may be readily attached to or detached from each other. The advantage gained by so constructing the ring is that the coiling of the wire around the same is more readily effected than with a continuous ring, and the wire may be coiled more tightly and uniformly.

In order to provide means for regulating the strength of current in the bath when using the machine for electro deposition he provides a resistance apparatus. Around a bar of ebonite, or other suitable non-conducting material, he coils naked or uncovered German silver wire, and the coil thus formed is so arranged and placed in the circuit that by operating a key or lever provided for the purpose, and in connection with the said coil, he can cause the current to take a longer or a shorter path through the resistance of the German silver wire, and the strength of the current in the bath is thereby rendered greater or less, accordingly he effects this object by connecting each coil of the wire around the bar of non-conducting material to a point or stud placed in a convenient position for the aforesaid key or lever to be brought in contact therewith as desired. The said key or lever is so connected in the electrical circuit that the current passes through it and through that part of the coil with which it may be in connection, thus making the circuit longer or shorter. As a convenient manner of operating he fixes the points or studs and the key or lever upon a board or plate, the whole to be placed in a convenient position upon the dynamo-electric machine, so that the workman or attendant may readily shift the key as required, according to what strength of current is wanted in the bath at any particular time. In connection with this arrangement he provides a galvanometer, which is placed in the circuit, and indicates at all times the number of revolutions the machine is making. It is desirable that the machine should be kept at the same speed, otherwise the placing of the key or lever on any one point or stud would not ensure the same strength of current in the bath. As the galvanometer indicates the speed, the attendant is able to regulate the same should it fall below or exceed that which it is desirable to maintain.

GAS PURIFICATION OF IRON.

A process which has for several years past been in course of development for deoxidising and desulphurising ores in producing iron and steel has just been exhaustively investigated by General HERMAN HAUPT, of Philadelphia, and from the excellent results it has given in this application and in protecting manufactured iron from corrosion it is believed that it will assist to open up an important industry. The economy of the process is based upon producing hydrogen and other gases cheaply, and using them for fuel in all metallurgical operations in place of solid carbon. It is claimed that the hydrogen can be produced under a pressure of 30 to 40 lbs. per square inch if desired, and can produce a heat more intense and concentrated than any other substance capable of reducing titanic and other refractory ores, while the affinity of hydrogen for sulphur and phosphorus as well as for oxygen removes these impurities that carbon cannot reach, and enables pure iron and steel to be manufactured from ores which by ordinary processes are worthless. It is claimed that the finest quality of steel hard or soft can be produced, and with greater uniformity of results than can be secured with any other process with a moderate degree of skill and experience in manipulation.

The mode of producing the hydrogen continuously and cheaply results from the discovery that iron at a red heat oxidised by superheated steam is immediately deoxidised by a small amount of naptha vapour. By passing superheated steam over iron heated to redness in a close retort hydrogen is liberated and the iron is oxidised, but the addition of a certain proportion of naptha vapour immediately restores the iron to its normal condition, and with it its capacity for producing hydrogen, and so imperceptible is the interval between the oxidation and the deoxidation of the iron that the production of hydrogen is continuous without any consumption of the iron whatever.

Another important result of the processes under consideration is the protection of iron manufactures of all kinds against all corrosive influences. According to the information received not only is iron exposed to atmospheric influences entirely protected, but immersion in sea water or exposure to aqua regia or to a red heat has no effect whatever. The Barff process was practically a failure owing to its non-reliability, the iron not being uniformly coated, these difficulties resulting from the impossibility of securing a clean surface for the steam to act upon. With the new process the foul condition of the surface before treatment does not influence the result. The iron heated to redness is subjected to a bath of hydro-carbon vapour, which immediately reduces the oxide and leaves the surface in a condition to be acted on by the superheated steam, no part escaping its action. A keg of punchings completely coated with iron rust was thrown into the retort and treated without preparation. They were taken out with polished and smooth surfaces resembling graphite, and digestion of specimens in nitro-muriatic acid for 12 hours produced no effect. By this process, it is claimed can be prepared metallic shingles, Russia sheet-iron, fence and telegraph wires, corrugated iron roofing, nails and spikes, water and other pipes, boiler flues, boiler plates, plates for iron vessels, bridge wires, culinary utensils, in fact all surfaces, large or small, except such as are subject to abrasion, can be fully protected, and without injury to the material.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF THOMAS BELL, ESQ., H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, will be HELD on the 28th day of July, 1879, and CANDIDATES INTENDING TO PRESENT THEMSELVES at such Examination must, on or before the 21st day of July, 1879, notify such intention to the Secretary of the Board of the above-mentioned District, from whom all information as to particulars can be obtained.

By order of the Board,
G. W. BARTLETT, Secretary.

Cleveland Parade, Darlington.

N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

WANTED, A PRACTICAL AND SCIENTIFIC ENGINEER AND MINER, to CONDUCT a SILVER MINE in MEXICO. Address, stating qualifications, age, and salary, to "X. Y.," care of Messrs. LEATHWAIT and SIMMONS, 1, Pope's Head-alley, London, E.C.

TO LEAD AND SILVER SMELTERS, AND CAPITALISTS.

WANTED, a SITUATION as an ASSAYER or MANAGER in a LEAD and SILVER SMELTING WORKS. Seven years' experience. Can produce unexceptionable references.
Apply to EDWIN STOCK, No. 6, Mansel-street, Swansea.

TO MR. JEREMIAH THOMAS.

I, JOSEPH PARSONS BIDDLE, of MERTHYR TYDFIL, in the county of Glamorgan, Iron Founder, do hereby admit and acknowledge that I have INFRINGED upon your PATENT for the CONSTRUCTION of a SMALL COAL WEIGHING MACHINE, technically known as "Billy Fair Play," and hereby express my regret, and apologise to you for so doing, and also consent and agree that you are at liberty to publish this APOLOGY in such manner, in such papers, and for such period as you may think proper. JOSEPH P. BIDDLE.

THE GREAT ADVERTISING MEDIUM FOR WALES.

THE SOUTH WALES EVENING TELEGRAM
(DAILY), and
SOUTH WALES GAZETTE
(WEEKLY), established 1857,
The largest and most widely circulated papers in Monmouthshire and South Wales
CHIEF OFFICES—NEWPORT, MON.; and at CARDIFF.

The "Evening Telegram" is published daily, the first edition at Three P.M., the second edition at Five P.M. On Friday, the "Telegram" is combined with the South Wales Weekly Gazette," and advertisements ordered for not less than six consecutive insertions will be inserted at an uniform charge in both papers.

P. O. O. and cheques payable to Henry Russell Evans, 14, Commercial-street Newport, Monmouthshire.

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PURCHASERS OF
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, HARD LEAD BRASS SLAGS AND ASHES, COPPER REGULUS, MATTE, SCORIA, TIN ASHES, TERNE ASHES, &c., and MIXED ORES or REFUSE, containing LEAD, COPPER, TIN, or ANTIMONY.

GEO. G. BLACKWELL,
5, CHAPEL STREET, LIVERPOOL,
PURCHASER OF
MANGANESE, ARSENIC FLUOR-SPAR, WOLFRAM, BLENDE, CALAMINE, CARBONATE and SULPHATE OF BARYTES, ANTIMONY ORE, CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE OCHRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS TALC, PHOSPHATE OF LIME, &c.

AUSTRALIAN TIN—PRIZE MEDAL, 1877.

THE UNDERSIGNED is PREPARED to EXECUTE ORDERS for the CELEBRATED
"KANGAROO" BRAND.
S. L. BENSUSAN.
Kangaroo Tin Works, Sydney, December, 1878.

R. B. HARPER,
MINING ENGINEER,
Will SUPERINTEND or EXAMINE and REPORT on MINES on the PACIFIC COAST. Having had 14 years' experience in Gold and Silver Mining in Mexico, California, and Nevada. Government Mining Engineer for the Province of British Columbia.
Any communications may be addressed Room 49, Nevada Block, San Francisco, California.

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FOR SALE,—THREE FOUR-WHEEL COUPLED TANK ENGINES, 9 in. cylinders, 4 ft. 8½ in. gauge, and ONE SIX-WHEEL COUPLED, 12 in. cylinders, 4 ft. 8½ in. gauge,—all by MANNING, WARDLE, and Co., Leeds; in good working condition
For further particulars and prices, apply to W. J. HARMAN, 35, Queen Victoria-street, London, E.C.

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NICKEL AND COBALT REFINERS
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SUPPLIES ASSAY OFFICE REQUIREMENTS AND RE-AGENTS.

GYPSUM.

WANTED, a REGULAR SUPPLY. Send samples and quoted price, delivered on rails, to W. BOUSTRED, Mineral Merchant, Pontesbury, Salop.

A GENTLEMAN wishes to DISPOSE of a PART of his INTEREST in a SILVER and LEAD MINE, situated in the SOUTH OF SPAIN.
Full particulars can be had by applying to Messrs. J. W. PALMER and Co., Adelphi House, Strand.

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ROCHE FELSPAR COMPANY (LIMITED), AND BELL TIN AND COPPER MINE (LIMITED).
These SHARES cannot fail to TAKE a PROMINENT POSITION in the MARKET shortly, and a great advance in price. See *Mining Journal* of the 7th for the report of the recent discovery of felspar, and this day's Journal for the analysis of the spar.
For full particulars and prospectus, apply to T. R. PARKYN, Jun., Finsbury House, Roche.

TO MINING COMPANIES.

THE ADVERTISER seeks a RE-ENGAGEMENT. Accustomed to LEAD MINING, DRESSING, ERECTION OF MACHINERY, &c. Experience in France, Spain, &c. No objection to go abroad. Good references.
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FOR SALE, FIFTY FULLY PAID UP SHARES, at 38s. each, in this excellent Mine, now making large and regular monthly returns of rich silver-lead ore.
Apply by letter to "W.," MINING JOURNAL Office, 26, Fleet-street, London.

ARENDAL MINING AND SMELTING COMPANY.

FOR SALE, ONE HUNDRED AND TWENTY-FIVE SHARES in the ARENDAL MINING AND SMELTING COMPANY (LIMITED). Price £3 per share, with £3 10s. paid. No reasonable offer refused.
Apply to Mr. JOHN DAW, Skien, Norway.

COPPER MINE TO BE LET, FOR A TERM OF YEARS, at LOW RENT and ROYALTY. Under 40 acres, more or less.
Particulars and samples, "G. W.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

THE ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY (LIMITED).
Notice is hereby given, that the EIGHTEENTH HALF-YEARLY GENERAL MEETING of the above company will be HELD at 47, Finsbury Circus, London, E.C., on FRIDAY, the 4th day of July, 1879, at Twelve o'clock precisely, for the purpose of receiving the Reports from the Directors and Manager, and transacting the ordinary business of the company.
The Register of Transfers will be closed from the 21st June instant to the 4th July, both inclusive. By order of the Board,
H. G. DENNISS, Secretary.
47, Finsbury Circus, E.C., the 20th of June, 1879.

PONTGIBAUD SILVER-LEAD MINING AND SMELTING COMPANY.
An EXTRAORDINARY GENERAL MEETING of the Shareholders of the above company will TAKE PLACE in Paris at the offices of the company, No. 15, Rue de Châteaudun, on FRIDAY, the 11th day of July next, at Three o'clock in the afternoon precisely, for the purpose of receiving the Report of the Commissaires named by the General Meeting of 19th June, to appraise the value of the property of the Couëron Company to the Pontgibaud Company, conformably to the treaty for the fusion of the two companies.
In terms of Article 27 of the law of 24th July, 1867, each shareholder, whatever may be the number of his shares, may take part in the proceedings of this meeting.
The shares must be deposited at least ten days before the meeting, at the office, in Paris, or at the Agency, in London.
Shareholders may be represented by proxy at the meeting, but no one can be the bearer of a proxy unless he himself is entitled to be present at the meeting.
JOHN TAYLOR AND SONS.
London Agency, 5, Queen-street-place, E.C., 26th June, 1879.

Notices to Corr espondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

MINING JOURNAL.—Bound volumes wanted of the Journal for the years 1870, 1871, 1872, and 1876. Any subscriber having them to dispose of will oblige by stating price. Address, "H. C. C.," *Mining Journal* Office, 26, Fleet-street.

Received,—"W. D." (Llanidloes)—"A Holder" (Liverpool)—"C. R."—"R. K." (Llanrwst): Glad to receive them—"Shareholder" (Ebbw Vale Company)—"Observer" (Manchester): We think the course you contemplate the only safe one to adopt—"Constant Reader" (Bristol): You should apply to the broker through whom you purchased the shares—"M. W." (Leek)—Mr. W. Young, on Colliery Explosions, in next week's Journal—"M. E." (Nant-y-Glo)—"Quorum:" Do not be too positive: you had better make enquiry before proceeding further—"L. Y."—"Shareholder" (Ebbw Vale): Perhaps next week—"Shareholder" (Placerville): Read the report of the meeting in another column in this day's Journal.

IMPORTANT NOTICE—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the *Mining Journal* to many countries will be reduced to one-fourth. Henceforth the subscription will be 1*l*. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1*l*. 19s. (50 frs.)

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JUNE 28, 1879.

OUR IRON AND STEEL TRADES IN 1878.

The annual report of the British Iron Trade Association is an interesting and exhaustive document conveying a very large amount of information concerning the iron, steel, and allied trades, and every care has been taken to indicate the course and tendencies of the industries dealt with. Taking a retrospect of the year it is remarked that great losses have been incurred on almost every hand. Capital has either been lying altogether unproductive, or where it has been used for manufacturing purposes its operations have been attended by even greater losses than would have occurred had it been left in a state of idleness. Wages, on the other hand, have been greatly reduced, and in our staple industries the rates now current, speaking generally, are below those that have prevailed at any rate during the last decade. But this is not all, nor even the worst of it. Low as wages are, they might suffice in the majority of instances to find for thrifty operatives a tolerable livelihood; but, unhappily, many thousands of the working classes have in consequence of the depression of trade been altogether deprived of employment. In all the leading centres of metallurgical industry many ironworks have been closed, and the enormous capital embarked in the finished iron trade of Great Britain, in consequence of the changes which have taken place, is beyond question greatly depreciated.

When, however, we come to survey the general commercial operations of the past year we cannot fail, the report continues, to be struck with the extent to which the ordinary criteria of prosperity have failed to respond to the universal complaints of depression and disaster. The revenue returns for the twelve months ending December were, in round numbers, 80,000,000*l*., against 78,000,000*l*. for the preceding year, showing an increase of 2,000,000*l*.—a result which, after making allowance for the increase of taxation, is not so discouraging as might have been expected. Another reliable criterion of the course of commerce generally is found in the railway traffic returns, and with regard to these the report shows that even during the latter half of 1878 there is only in the case of four railways a marked decrease of receipts, and that excluding the 185,000 decrease of the North-Eastern (which nevertheless was able to pay 7 per cent. dividend) there would only be about 80,000*l*. decrease distributed over the 22 leading railways, so that upon the whole the railway traffic receipts of the country fail to bear out to their full extent the loud complaints of depression that have everywhere prevailed during the period referred to, and certainly present more encouraging features than could have been expected under all the circumstances.

Turning to the imports and exports to and from the United Kingdom during the past year we find the condition of things more cheering than could have been expected; the imports decreased 28,000,000*l*., whilst the exports decreased only 6,000,000*l*. It is remarked that there is no reason why the cotton trade should not flourish equally well in any other country. Other countries, indeed, possess over England the advantage of cheaper labour, and this would to some extent compensate for our undoubted advantages in respect of commanding capital and producing power. It is, however, otherwise with coal and iron. These productions are native to our soil; few countries have the same command of equal natural resources, and, indeed, if we except America, there is no country that can, *cæteris paribus*, compete successfully with ourselves, so that from this point of view the iron trade has much more to hope for in the future than the cotton industry. Between 1871 and 1873 there were 527 new collieries opened out, and between 1873 and 1875 there were 874 others opened, so that within five years the number of collieries available for production had increased by 1401. Between 1875 and 1877 there were 270 of these closed, and probably about 100 more in 1878; but there remained 1031 over and above the total number opened out in 1871. It is mentioned that Mr. ROBERT GIFFEN, of the Board of Trade, has ascertained that between 1865 and 1875 the amount of capital invested in mines in the United Kingdom increased from 19,000,000*l*. to 56,000,000*l*., or 195 per cent. During the same decade the capital invested in ironworks increased 314 per cent., and in railways 58 per cent., while the increase in land was only 8 per cent., in houses 38 per cent., in public funds (less home funds) 146 per cent., in canals 11 per cent., in gasworks 43 per cent., and in quarries 100 per cent. The condition of our staple trades during the past year—deplorably bad as it would in any case have been—has been seriously aggravated by the great number and magnitude of the disputes between capital and labour. The report confirms the view that strikes never benefit the workmen. There were 277 strikes in 1878, against 181 in the preceding year. Of these 277 there occurred 58 among coal miners, 20 among puddlers and moulders, 6 among iron shipbuilders, 4 among boilermakers, and 77 in the building trades. The remaining 112 were in various trades. In only 4 cases out of the 277 (1 case in 70) were the men successful; in 17 other cases (1 case in 16), and these of no great importance, a compromise was entered into; and in 256 cases out of the 277 (or about 19 times out of 20) the men, after bearing the sufferings of the strike, had to go back on the masters' terms. But this is not all, for the careful investigation made by Prof. LEONI LEVI shows that between 1866 and 1878 the average weekly earnings of the labouring classes among men 20 years old and upwards increased from 19s. 6d. to 21s. 9d., or 6¾ per cent., whilst among women in the same time and of the same ages (chiefly among domestic servants and dressmakers—classes whose circumstances almost forbid the possibility of combined action to force the rate of wages) the increase was from 11s. to 13s. 8d., or 24 per cent. In other words, Prof. LEVI has proved that wages have most largely and permanently advanced among the non-striking classes as contradistinguished from the classes who engaged in strikes. It would be well if working men could be induced to consider these figures.

The make of Cleveland pig-iron decreased from 2,138,378 tons in 1877, to 2,023,177 tons in 1878; while the unsold stock increased from 231,216 tons in 1877, to 248,139 tons in 1878; and the stocks on warrant increased from 42,730 to 89,193 tons. The average price declined from 42s. 1½d. to 38s. 2d. The make of Scotch pig decreased from 982,000 to 902,000 tons; but the shipments and consumption decreased from 840,000 to 728,000 tons; and the unsold stock increased from 505,000 to 679,000 tons. The pig-iron trade of South Staffordshire is represented as having gone rapidly from bad to worse. Against the decline in this country America, Germany, and France show important improvement.

In the chapter on the manufactured iron trade it is remarked that scarcely a day passes that steel does not find a new application, and every fresh application seems but to confirm the already general partiality for its use. As to Bessemer steel, it appears that the total production of Bessemer steel ingots in the United Kingdom in 1878 was 807,527 tons, being about 60,000 tons more than in the preceding year. From these 807,527 tons of ingots 633,733 tons of steel rails were obtained, being nearly 100,000 more than in the preceding year. The production of open-hearth steel increased from 137,000 tons in 1877 to 174,000 tons in 1878 in England, and from 21,490 to 38,000 tons in America. Chapters on the exports of iron and steel, iron shipbuilding, railway development, and foreign tariffs are also given, and the report is altogether well worthy of perusal and consideration.

GAS ENGINES.

Considerable progress of late appears to have been made in the utilising of gas for several purposes for which coal not so very long since was the sole agent, and this has been done with the view of saving expense, economising space, and ensuring greater cleanliness in using. Gas has long done duty in our stoves for the heating of rooms, offices, and shops, as it also has in cooking ranges. In these instances gas has done good service, and few that have adopted it, whether in cold or hot weather, for any specified object, are likely to revert back to the old system. During the summer months cooking ranges are admitted to be a great family boon, as there is no dirt whatever consequent on their use, whilst the temperature of a kitchen is kept far below what it would be were there a large fire, whilst in winter offices and shops, by the aid of gas, are kept at a genial warmth without looking after. In addition, however, to these consumers of gas, an extensive business is now being done in engines, the motive power of which is ordinary gas. In many ways some of these have special advantages over the steam-engine, for with them no time is lost in getting up the power, whilst when it is not required it can be instantly withdrawn. Some of the small engines can be worked at an expenditure of gas not costing more than twopence per hour. The advantages of the gas engines, as compared with others where no vast amount of power is required, was brought a few days ago before the members of the British Association of Gas Managers, at their annual meeting at Newcastle, by Mr. CARR, of Halifax. The first gas engine used in England was that known as the Lenoir and Hugon, and to all appearances was similar to an ordinary small horizontal engine, and worked by drawing into the cylinder a mixed charge of gas and air during the first half of the stroke of the piston. At the middle of the stroke the charge was exploded, and for the moment exerted considerable pressure, but so brief was the duration of the pressure that the impetus given was very slight in comparison with the quantity of gas consumed. In order to overcome the sudden character of these explosions another engine was brought out, known as the Otto and Langen. In this engine the piston was allowed to fly away rapidly before the explosion without being connected to the shaft of the engine, a vacuum being formed by the condensation of the products of combustion which caused the piston to return, and being connected with the shaft, advantage was taken of the steady pressure of the atmosphere to cause the shaft to revolve and perform the necessary work. Mr. CARR stated to the meeting that no less than 4000 of these engines had been turned out. As the slow movement of the piston was considered a drawback, a considerable improvement took place in a new engine made, now known as the "Otto engine." The cylinder in which the piston in the latter works is considerably longer than is necessary for the stroke of the piston, whilst the back portion is which the piston does not work forms the reservoir for holding the negative gases with which the explosive mixture is diluted. The cylinder is open ended, avoiding the necessity of a stuffing-box, and the portion of the cylinder liable to be worn through by the action of the piston is a casting in the form of a short length of flange piping, with a flange at one end only. The valve works across the back of the cylinder, and not only admits the gaseous charge, but fires it exactly at the right moment. There is an exceedingly sensitive governor for the supply, which can either give a whole charge or no charge at all, just as the necessary work requires. The engines on this principle can run at a speed of 160 or 170 revolutions per minute, and when worked to their full extent consume only 23 cubic feet of gas per horse power. It is claimed by the patentees—Messrs. OTTO, LANGEN, and CROSSLEY—that the average consumption of gas is not over one pennyworth per hour per horse power, that it starts at a moment's notice, and that as a rule no extra insurance is demanded by insurance companies. It may also be said that the engine requires comparatively little space.

The Excelsior differs from the Otto in having a pump bolted to the underside of the working cylinder, so that the mixture of air and gas can if necessary be fired every stroke, whilst the cylinder at the same time takes in a fresh charge. Messrs. SIMON and Co., of the Wilford-road Works, Nottingham, introduced what they term the "Noiseless Patent Atmospheric Engine," which works very well, requiring little gas and no water. It is made from one-third horse-power upwards. Some of these engines we may say are really ingenious in their mechanism, and in the Otto, Langen, and Crossley, for instance, there is the patent governor that admirably controls the action of the engine, so limiting the number of piston strokes to the exact number required for the work to be done, whilst the lifting motion for drawing in the charge of gas and air and working the slide consists of a solid wrought-iron crank instead of eccentrics and levers made in the engines first produced. Then there is the starting handle, which on being pulled down gives the lifting crank half a revolution, and so draws in the charge and works the side so that the engine can be started instantaneously without pulling round the fly-wheels. The silent engine of Messrs. SIMON and Co. is different from all others, and has two cylinders for working and compressing, both being jacketted, and the space filled in with water that can be converted into steam, so that when the engine has been working a short time the water begins to boil, steam is generated, which goes into the working cylinder with the gas and air thus lessening the quantity of gas required to keep the engine in full work. The greater the force exerted by the steam, of course the less gas is admitted to keep up the speed, and the consumption of gas is only from 22 to 26 cubic feet per hour. The Bischoff is another well-known engine worked by an eccentric by means of a rocking lever opening the communication with the exhaust, and when lowered admits the gas and air. At the back of the cylinder a small gas flame is directed by a pipe, the flame being kept alight by another jet underneath. Both the lights are enclosed in cast-iron cases. The advantage claimed for the Bischoff is the small space required for the engine, which is quickly and easily fixed, requires very little oil, and no water, whilst it only requires from 12 to 13 feet of gas per hour, and runs from 100 to 130 revolutions an hour. So successful have some of the small engines been, and so trifling the expense in working them, that several have been made up to 20-horse power, and there is no reason whatever why they should not be made much larger, for there is no doubt as to the economy with respect to the motive power, as well as the speed and durability, which are the principal desiderata in all kind of engines. Hundreds of those to which we have drawn attention are now working in engine shops, as well as in pumping and pulverising. In Liverpool many of them are to be found in the cotton warehouses in connection with hoists and crabs, some of the latter being specially made for the gas engines. In one instance a 3-horse power engine has been working a pair of hoists in a cotton warehouse, lifting upwards of 2000 bales, each weighing about 4 cwts., an average height of 6 ft., with an expenditure of about 2000 feet of gas, or about 1 foot of gas for each lift. With such results there is no wonder at the large number of gas engines that are now to be found at work in all parts of the kingdom, nor at the rapidly increasing demand there appears to be for them for many purposes.

COMPRESSED AIR FOR MINING, &c.

During the last few years the progress and development of our national resources, especially of iron and coal, have been greatly stimulated by scientific research and the many important inventions that have been introduced in connection with them, having for their object the minimising of the cost of production and the supercession of hand-labour by machinery and safety appliances. In no branch, perhaps, of our great industries has more been attempted for economising labour and in giving increased security to life and property than in mining, which in most districts is attended with more or less difficulty and danger, but the success has not always been equal to the wishes of inventors. But amongst the many inventions that have been brought under the notice of the public in connection with mining none appear so valuable as the introduction of compressed air for underground purposes. Compressed air as a motive power appears to have first been brought out by a Mr. ATKINSON in 1856, who obtained a patent for "obtaining and applying motive power for the conveyance of minerals and other purposes in mines by the use of compressed air forced into suitable reservoirs by means of a head of water acting on pumps," or, instead, "the air may be compressed by an engine or suitable machinery aboveground, and then conveyed by pipes into the mine." For many years but little progress was made, but since 1870 the principle has been recognised as a valuable one, and now compressed air is to be found in many mines for underground haulage and other purposes, whilst it has also been found the best motive power for coal-cutting machinery, which has certainly not made that headway that might reasonably have been anticipated. But it is admitted that compressed air has many advantages over steam, being simple in its application, a safe agent underground, and could be made in some mines to increase the ventilation. But it appears there are many purposes for which it can be adopted that only a short time since our mining engineers and others in all probability never dreamt of, but which are now gradually being opened out to them, and in some important particulars must lead to the discontinuance of some old modes of carrying on mining operations, and such as will relieve them of a great deal of the anxiety inseparable from the danger attending the existing system of working. One of the great sources of accidents in mines is undoubtedly blasting with gunpowder, and perhaps more than anything else it has led to many of the most serious mining fatalities from explosions that have taken place. It is always a source of danger, so that in many districts it has been altogether discontinued, and the mineral brought down by wedging—of course at much greater labour and expense.

But now we are told that compressed air can be used fully and as effectually as gunpowder, whilst, of course, all danger is done away with. This important invention has been patented, and the proprietors of it—one of whom, we believe, is our well known and esteemed correspondent, Mr. ELLIS LEVER, of Manchester—are now making its value known. Mr. REUSS, engineer, of Manchester, who is doing the work, states that the coal can be got by the new system as easily and as cheaply as by gunpowder, and with the greatest safety, for the workmen can remain near the place whilst the charge of compressed air bursts; and if coal is being worked it is brought down with far less small than is the case with powder. The apparatus and the mode of procedure are simple and effectual, there being no "miss," as is the case with powder. A circular hole having been bored in the face of the coal for the reception of a cast-iron cartridge, the latter is connected by hydraulic tubes to an atmospheric blasting machine, which only requires two men to work. From the machine the pure air is pumped into the cartridge which has been placed in the hole in the coal, until it bursts, which it soon does, and brings down a large quantity of the coal. It is said that the pressure given by the machine is equal to 18,000 lbs. to the square inch, so that the strain must be very great indeed. As we have before stated, the discharge of a large quantity of compressed air into the working place of a mine would be most beneficial, and this the new system, no doubt, would affect, keeping the faces of the coal pleasantly cool to the miners. We are not aware whether the compressed air machine has been tried in any of our mines, therefore we are unable to give any particulars as to what it has done. We should, however, be glad of the opportunity of being present when the invention is tested in a colliery or other mine, when we should be able to write with more confidence respecting it, for practical experience, after all, is the best guide with respect to inventions generally. At the same time, there appears to be very little doubt but what the invention is not only a most valuable one, but will fully bear out those who have it in hand in what they say it is capable of accomplishing. When practically tried, and doing what MR. REUSS says it will, the system most certainly would come into almost general operation, and would be one of the greatest boons conferred by inventors on both mineowners and miners. We, therefore, hope before long to be in a position to give a detailed account of what the new system is capable of doing from personal observation.

INDUSTRIAL ASPECTS OF THE NORTHERN COAL TRADE.

The reports of the Inspectors of Mines just issued might be described as a mine of statistical information, and this figure of speech might be extended so far as to say that the information resembles the contents of a mine in respect of the rawness of the material and the irregularity of its arrangement. If the mine inspectors had deliberately intended to illustrate De Quincey's remark—"Labourers of the mine or those who dig up the metal of truth are seldom fitted to be also labourers of the Mint, that is to work up the metal for current use"—they might fairly point to the absence of uniformity in their reports as evidence in point. For purposes of comparison this lack of uniformity is much to be regretted; but in respect of the coal trade of Northumberland and Durham it is not the most disappointing feature of these reports. Compared with other districts the reports from these two counties show the greatest depression in their industrial and productive aspects, and the only redeeming feature is their comparative immunity from fatal accidents. In this respect there is every reason to be satisfied with the working of the mines when compared with the chapter of accidents from other districts. In these distressing times it is satisfactory to know that the pinch of poverty in the industrial population of these counties has not been aggravated by loss of life or shocked by terrible accidents, even in an average degree, in the coal mines. Northumberland and Durham compare favourably with other mining districts as regards the number of mining accidents or the amount of life lost; but, from a commercial and industrial point of view, the history of last year compares unfavourably with other mining centres. It is interesting to observe to what extent the balance is against this part, and to ascertain as exactly as possible its position in comparison with localities similarly employed.

In order to estimate correctly the value of the statistics relating to coal mining during the last few years it must be remembered that the production of coal in the United Kingdom in 1877 was the largest on record, the total output being 134,179,968 tons. Of that enormous production the coal fields of Northumberland and Durham yielded nearly one-fourth. For last year the total production of coal in the United Kingdom was 132,612,032 tons, being a decrease in comparison with the preceding year of 1,567,905 tons. Now, it appears that the total output for Northumberland and Durham last year was 30,132,583 tons, being a decrease over 1877 of 1,339,228 tons of coal. It thus appears that to the whole decrease of 1½ million of coal produced in the United Kingdom the counties of Northumberland and Durham have the credit of contibuting no less than 85 per cent.; in other words, the decrease of the output in these two counties was about 3½ times more than it ought to have been. The other minerals produced in the same area within the same period we do not propose to deal with in detail. It is well, however, to observe that in "the Durham district," which comprises the southern portion of the county of Durham, the county of West

moreland, and the North Riding of Yorkshire, the figures relating to the whole of the mineral produce—coal and iron being, of course, the chief—show that their share in the decrease of the United Kingdom was 65½ per cent., which again is nearly four times what it ought to be. This still further shows how heavily the depression has fallen on the coal trade, which embraces three-quarters of the entire mineral trade of the Durham district. At the end of March there were within that area 138 pits and mines standing idle altogether, the number being 81 coal pits, 20 ironstone mines, and 37 metalliferous mines. It would be a very difficult and not a very profitable enquiry that would seek to explain the causes and distribution of this terrible contraction of our mineral resources; but, as the depressed state of the iron trade will naturally be accredited with a large share of the decrease, the position of affairs cannot be properly appreciated without some explicit reference to an industry which is almost inseparably correlated to the coal trade. It is believed by the best informed authorities that the quantity of coal used in the iron trade averages 30 per cent. of the whole output, and it is not expected that this rate of consumption in the iron trade will be diminished to any great extent by improved appliances or inventive skill. Singularly enough the year which, notwithstanding our wail of depression, witnessed the largest production of coal on record, 1877, was also the year that recorded the greatest make of pig-iron in Cleveland, which is one of the best customers for Durham coal; but other districts did not show anything like the same activity. Last year the make of pig-iron in Cleveland showed a decrease on the former year of about 5 per cent., which may account for about one-third of the decrease in coal. But a wider view of industrial operations shows that the manufacture of iron affords a very unreliable explanation of the causes of fluctuations in the output of coal—for in South Staffordshire the iron trade has been more depressed than in Cleveland, while the coal trade of the Midlands continues to increase and prosper. At the end of last year there were only 24 furnaces in blast in South Staffordshire, and 123 were standing idle, while in Cleveland more than half the furnaces were in blast. On the other hand, the coal trade of the Midlands presents a striking contrast to that of Durham. The former district produces an eleventh part of the total quantity of coal raised in the United Kingdom, and the produce of that district last year showed an increase of nearly 4 per cent. over that of 1877. The figures show a total produce of 13½ million tons, being an increase of half a million over 1877 and of one million over 1876, chiefly raised in the counties of Derby and Nottingham. The increase in this district is nearly as great *pro rata* as the decrease in the Durham district—a circumstance which certainly cannot be attributed to the condition of contiguous iron industries.

Another aspect not less interesting is presented when we compare the industrial condition of the coal trade; while the quantity of minerals produced per annum interests some people only as showing the amount of wealth extracted from the earth, to others there are industrial problems connected with the production of coal that are of more immediate and not less vital importance, affecting thousands of people whose welfare in these hard times becomes as truly a burning question as the coal question itself was in 1873. With reference to this part of the subject it may be as well to recal the facts which Mr. Rupert Kettle brought to light in 1875 respecting the Northumberland coal trade. He found on investigating the state of affairs as regarded the working of the mines that 8 per cent. less coal was raised in January, 1875, than in April, 1871; that in the first-named year 14 men were employed to do the less quantity of work than that done by 10 men in 1871, and that wages had risen 50 per cent. between 1871 and 1875. The tide of prosperity for miners, which was then at the full, has so far receded that their wages are now less than they were in 1871. But the distribution of the work and the number of hands employed have not in like manner assumed their former proportions. A limitation of the number of hands is only what naturally takes place as the result of diminished production; but, on comparing the labour statistics of the different districts we find anomalies as great as any that appear in the figures of production. The total decrease in the number of persons employed in mining in the United Kingdom last year was 19,062; and of that decrease 13½ per cent. has taken place in the Northumberland coal trade, and 2⅘ per cent. in the mineral operations in the Durham district. On the whole, it appears that the numbers of workmen have only decreased at about the same rate as the production in these districts—a fact which is all the more surprising when we remember that between 1871 and 1875 the workmen increased in the ratio of 14 to 10.

In Northumberland the output of coal per man averaged 280 tons in 1878 and 279 in 1877, while in the Durham district the averages were 356 and 352 tons for the respective years, again showing that the number of hands in proportion to the work done remains much the same. In 1870 the average output per man was 337 in Northumberland, and 408 in the Durham district. This distribution of labour in the face of an exceptionally large decrease in the aggregate output is obviously one result of short time, which has been the rule, more or less, at all the mines. But when we turn to the Midland district, with which we have compared the output of the Northern coal fields, we find the comparison in respect of the numbers employed the reverse of what we should have expected. Here it appears that, while in the two years 1876-8 the quantity of coal raised was increased by one million tons, the number of men employed in working it was reduced by 3094; hence the average output per man in 1876 was 238 tons, and in 1878 it was 275. In North and North-East Lancashire, where the output continues to increase, there was an increase last year of 445 persons employed, and the average output was 292 tons per man; while in the Yorkshire district, where there was a decrease of 182,663 tons as compared with 1877, the decrease in the number of persons employed was 826, and the average output 270 tons.

When, however, we turn to the chapter of accidents we find that Northumberland and Durham compare favourably with other districts, for while the output was nearly one-fourth of the total quantity of coal raised in the United Kingdom, the number of deaths caused by colliery accidents was about one-tenth. But in this matter, also, the Midland district is pre-eminent. In Northumberland one life was lost in every 890 persons employed, in the Durham district one in every 638, and in the Midlands one in every 890. The average number of fatal accidents throughout the United Kingdom last year gave an average of one death for every 336 persons employed; in the preceding year the average was one in 409.

THE IRON TRADE—RHYMNEY IRON COMPANY.

The Rhymney Iron Company (Limited) has just reported progress for the year ending March 31, 1879, and very crab-like and disappointing progress it is. Not only was no profit realised by the company in 1878-9, but it also sustained a loss of 35,977*l.* on the year's trading, irrespective of 5564*l.* which had to be taken from the reserve fund in order to meet interest on the debentures issued a year or two since to enable the undertaking to commence the manufacture of steel. The company has been gradually reducing its production of iron and increasing its manufacture of steel; but it has been all one, the concern has lost even more by making steel than it did by making iron. In 1878-9 iron was made to the extent of 10,144 tons, against 40,065 tons in 1877-8. Steel, on the contrary, was made to the extent of 32,315 tons in 1878-9, against 7757 tons in 1877-8. The unsatisfactory result of the past year's trading was not attributable to any particular defect or shortcoming in the management, but was the result of the continuous fall which has been taking place in prices. Thus steel rails, which in June, 1878 realised 5*l.* 10*s.* per ton, have since been sold at as low a rate as 4*l.* 7*s.* 6d. per ton at the Welsh shipping ports, while as regards iron rails, the price of which is now only 2*s.* 6d. to 5*s.* per ton below that of steel, no sufficient amount of orders have been obtainable to keep the mills employed with regularity and economy. It is some consolation to the proprietors in the Rhymney Iron Company to learn that important progress has lately been made in economical working. The production of steel ingots in 1878-9 averaged 816 tons per week, while that of steel rails averaged 623 tons per week. During the last 18 weeks this production has been raised to 1070 tons of ingots and 832 tons of rails. In commencing the manufacture of steel, the company was under the disadvantage of having to purchase the coke required for its blast furnaces. It is now by the erection of washing apparatus enabled to supply the greater part of the fuel used from its own property, and in this respect the position of the company is regarded as encouraging, as its estate contains a large supply of coal for producing coke of good quality suitable for making Bessemer pig. The company had also to purchase a large proportion of the pig-iron used, having only one furnace available for its production; now it has three furnaces in operation, producing about 1200 tons per week. The unfavourable results of the past year, so far as the cost of production is concerned, may, therefore, be regarded as exceptional.

So far so good. The great difficulty of the terribly low selling prices of steel and iron still remains, however, to be dealt with. The question is whether the Nant-y-Glo and Blaina Ironworks Company (Limited) or the Rhymney Ironworks Company (Limited) adopted the most prudent course in dealing with the extremely grave circumstances of the time. The Nant-y-Glo and Blaina Company determined to make no further effort to produce iron, but to abandon its manufacture altogether and in every form. The directors of the Rhymney Company came to a different conclusion; they determined to treat the production of iron as a secondary consideration, and to devote more attention to the manufacture of steel. The result of the policy of the Nant-y-Glo and Blaina directors has been that that company has been enabled to stop the continual loss of capital which it was sustaining. The Rhymney Company, on the other hand, made a loss of 35,977*l.* in 1878-9. It is all very well for the Rhymney directors to regard this loss as an exceptional one, and to hold out hopes of a cheaper rate of production in the future. But unless the selling price of steel rails revives, it is difficult to see how their manufacture can be attended with any profit. The losses at present sustained may be reduced, but once upon a time we used to be old-fashioned enough to think manufacturers ought to work at a profit.

STEEL AT THE AGRICULTURAL SOCIETY'S EXHIBITION.—Having in view the daily increasing use of steel castings to various engineering purposes where lightness, strength, or durability are required, as compared with cast or malleable cast-iron, or where expensive wrought-iron forgings can with economy be replaced by steel castings, Messrs. JOHN SPENCER and SONS, of Newcastle-on-Tyne, have arranged a special exhibit in the International Agricultural Exhibition, to be opened in Kilburn on Monday, and feel sure that the variety of castings, and their general freedom from honeycomb, will tend to give increased confidence in the application of steel in this form. The steel castings exhibited have not been specially manufactured or selected for exhibition, the greater part having been taken from orders in course of execution, the object being to show that in ordinary practice steel castings can be depended upon as being reasonably free from blowholes. The exhibit will certainly be well worthy of attention.

SYDNEY INTERNATIONAL EXHIBITION—SPECIAL COLLECTION OF SANITARY APPLIANCES.—We are requested to intimate that Mr. WAHAB, C.E., is about to proceed to Sydney, for the purpose of forming a Special Collection of Sanitary Exhibits. Sanitary science now holds an independent and most important place among educated persons at home; and his prompt endeavour to form such a collection, when he found there was none at the Sydney Exhibition, is at once a proof of Mr. Wahab's appreciation of its importance, of his energy, and of his confidence that the makers of sanitary requisites will support him in giving prominence to this new feature of modern civilisation. His endeavours will meet with general sympathy, and it may be hoped that he will receive every encouragement. All necessary particulars may be obtained at the office of the British Commissioners, Westminster Chambers.

THE SOCIETY OF ENGINEERS.—A gathering of the members of the above society took place on Tuesday, who, according to the invitations issued by the secretary, proceeded to the works of Messrs Samuel Cutler and Sons, Providence Ironworks, Millwall, where many interesting machines and appliances used by this firm in the construction of gasworks, plant, &c., were inspected. The gentlemen having been entertained at lunch, were conducted by Mr. Duckham, the chief engineer of the Millwall Docks Company, through this establishment, and no member of the society could have regretted the few hours spent in the examination of the system of machinery and plant laid down for the general working of the most modern and best arranged docks in London. We are not able to find space in these columns to mention all the objects of interest which were referred to and explained by Mr. Duckham, but will mention one or two machines which claimed the attention of those present. These were Duckham's patent pneumatic discharging dredger, the chief novelty of which is the application of compressed air for discharging the material dredged; the material is taken into large cylinders, which when full can be closed, and by the introduction of air under pressure through numerous pipes connected with the air-pumps the stuff is forced through large outlet pipes to any required distance from the water's edge. The rapidity with which the contents of the dredger are thus discharged is remarkable, and it was stated that the effective saving by the use of this improved discharging arrangement to the Dock Company has been something enormous. The large pumping-engines for working the system of hydraulic cranes, bridges, &c., also formed subjects of discussion and much interest, as also did the visit to the ironclad corvette of Messrs. Samuda Brothers and Messrs. Priestman's self-acting skip. One of the last machines examined by the members of the Society, and certainly not the least interesting to them or our readers, was the Hand Power Rock Drill, of Messrs. Jordan, Son, and Meihe, which has been used at these docks for some time past for drilling the holes round the dock coping-stone to fix the continuous line of rails laid for the portable cranes, &c. By the use of the machine instead of ordinary hand labour a very considerable saving has been effected, inasmuch as these holes have been put down in about one quarter the time, and of course at a far less cost, since two labourers have been able to execute the greatest part of the work. The members of the society had an opportunity of seeing two of these rock-drilling machines at work, one drilling in granite and the other in Bramley fall stone. In granite the rate of drilling was 2 inches per minute, and in the latter rock much faster; and the working of these simple machines, of which most of our readers will know the details, was in every respect highly satisfactory to those present. A few weeks ago we published some very satisfactory reports of the practical and continuous working of these machines in mines, &c., in different part of the world, and it affords us some pleasure to speak more positively now of what we have ourselves seen and heard from those using them.

MANCHESTER GEOLOGICAL SOCIETY.—The concluding meeting of the session 1878-9 was held on Tuesday, at the rooms of the Literary and Philosophical Society, George-street. Mr. John Aitken, vice-president, occupied the chair. A short communication from Mr. R. J. Barnes, agent and manager of the Birley Collieries, Sheffield, was read on the use of gunpowder in mines. The writer raised the question as to what is meant by "a panel" in the Mines Regulation Act, and how far the finding of a little gas in a working place prevents the owners from using powder, except when ordinary workmen are out of the mine. The question was one of great importance. A "panel," in his opinion, was a separate split of air going from and leading to main returns, and therefore the restriction only applied to the workings in the one split of air wherein gas might have been seen. Where the pipe ventilation was used and each working place had its own "split" gas found in one such place would only lay that one place off from the use of powder—always providing there was no quantity of gas to make the pit dangerous. The inspector ought to be left to judge whether a mine was safe for the use of powder, being guided by his knowledge of the "splits," &c., of the mine.—A discussion followed, in which the opinion was expressed that until a judgment of the Courts can be obtained on a definite issue, no interpretation of the Act as to the meaning of "a panel" will be satisfactory.

REPORT FROM CORNWALL.

June 26.—Midsummer has come and gone (without the summer by the way), and without giving us that well-defined and permanent advance in the tin standard which was not so very long so generally, and it may be added so confidently, hoped. Of course under such conditions as now rule prediction is useless and idle, yet we cannot fail to see as we look around that without any actual pecuniary improvement worthy of note having taken place of late there is still a decided advance in steadiness and general prospects. The market looks well, and the mines look well also—in fact, every quarter adds if not precisely to our dividend mines still to the number of those which are making slight profits, and still more to those in which the "ditch is making the hedge"—in other words, which are paying costs. With far fewer mines at work numerically than we had a few years ago, it is still true that the bulk of the more important concerns have weathered the storm, and that those which remain are for the most part looking exceedingly healthy. From all sides, too, we hear of discoveries and improvements—not always such as the very marked one at Wheal Crebor, but still quite enough to inspire confidence and to renew hope. There has rarely been a time when the prospects of mining *as mining* looked brighter than they do now, and this is something substantial to set off to other drawbacks. After all, the depression has been so long and so wide spread that we must not be surprised that the recovery should be a work of time—much more so, indeed, than is at all agreeable

Another very notable sign of the times, and one which shows that there is plenty of energy left in Cornwall yet, is the fact that notwithstanding the low prices of mineral several engines are being erected, or on the eve of being so, in various parts of the county. Among these are a 50-in. cylinder pumping-engine at West Peevor, an 80 in. pumping-engine at Wheal Basset, a 60 in. pumping-engine at New Cathedral, a 36-in. winding engine at South Frances, while from West Gorland the 24-in. winding-engine is being removed to a clay sett near St. Austell. The 66-in. cylinder pumping-engine recently at Penhale and Lomax, Perranzabuloe, which was purchased from Messrs. F. W. Michell and Co. by Capt. Nicholls for Violet Seton Mine, has been re-erected, and satisfactorily set to work. This mine adjoins West Seton, and the lodes running through the sett are those which proved so rich in Wheal Seton and West Seton a few years ago. There are several other concerns, too, of which we hear as likely to start ere long, or as soon as there is a little more definite encouragement.

It has been noted as rather remarkable that three men so well known and so long connected with mining here should have passed away so nearly together and at such an advanced age, all three, too, contemporaries, within a year. We refer, of course, to Mr. Wellington, who was 77, Mr. West, who was 78, and Mr. R. H. Pike, of Camborne, who was 77. No one bore a more honourable name in connection with mining matters, or was more thoroughly respected within his circle than Mr. Pike. He did not, however, like Mr. Wellington and Mr. West, continue to the last actively engaged in his business concerns.

The Emigration Committee of the County and Wesleyan Relief Funds have met to receive the reports of the Union sub-committees appointed on May 30 last to inquire into and report on applications for assisted emigration to Canada. The Penzance Union sub-committee recommended nine families for assistance, and a sum of 160*l.* was voted. From the Helston Union 11 families were recommended, and 200*l.* was granted. Redruth Union recommended 13 families, and 235*l.* was voted. Truro Union, with Newlyn East, recommended 17 families, and the sum of 305*l.* was voted. From Launceston there was no application. In some cases only a small sum was asked for to help wives to go to their husbands, or children to go to their friends. The Union sub-committees will decide as to the best manner of disposing of the money voted to them, and bring up a final report next week at Camborne for the approval of the joint committees. There is not likely to be much more done in this direction. St. Just can employ more miners as it is, and the slightest revival would soon absorb all the remaining surplus labour.

There are some passages in the late report of the Government Inspectors on Explosives which deserve special attention from all engaged in mining, and which, therefore, we quote for their benefit. Guncotton, the Inspectors consider, may hang fire for at least half an hour, so that a fuse which has apparently missed fire should not be approached for at least that period, and if possible longer. It is dynamite, however, that claims chief attention, and with regard to this Major Majendie and Major Ford remark:—"We regret that it has been our duty in the course of the year to comment on a dangerously misleading statement, which, until quite recently, was in circulation respecting dynamite—the statement—that its explosive properties 'unaffected by damp.' It might be true to say that the explosive properties of nitroglycerine are unaffected by damp, but it certainly is incorrect to make this statement as regards dynamite, when in fact the result of the contact of dynamite with water is to reconvert and separate the substance into the much more sensitively explosive liquid nitroglycerine on the one hand, and on the other to deprive the solid constituent (kieselguhr) of all explosive properties whatever. Moreover, statements of this description are only too likely to be understood by the miner in the broadest possible sense, and to be taken as meaning that water has no effect upon dynamite." They also say:—"There have been no less than eight accidents due to the miner boring into or striking part of a charge of dynamite or tonite, of which a portion had remained unexploded in a hole or in some debris from a former blast. The teaching of these accidents (and of others of a similar character which have gone before) is that in no case should boring be permitted in the vicinity of an old hole until the place has been carefully searched by a competent and responsible person, so as to ensure the absence of all traces of explosive. If the holes have been wet holes, and dynamite has been used, all boring in the immediate vicinity, except on a higher level than the former holes, if possible, should be strictly prohibited, on account of the danger arising from the possible presence of exuded nitroglycerine, and we cannot but think that manufacturers of nitroglycerine preparations would be consulting their own ultimate interests, as well as those of the consumers of the material, were they to supply waterproof cartridges for use in wet holes.

REPORT FROM THE FOREST OF DEAN.

June 26.—The coal and iron mines are now characterised by limited output of their respective deposits, and the labour market is extremely sluggish and unsatisfactory, the colliers and iron miners being, in fact, upon half time where employed, whilst some of the mines and collieries are at a standstill, so that the circumstances of the district just at present are, generally speaking, "down" and discouraging. Even the exceptional cases mentioned or alluded to in our last have since, to some extent, partaken of the general slackness. The only bright spots of hope at present are tin-plate manufactories and forges, which have at present fair employment for their hands, notwithstanding that another drop in price of tin has just taken place. The working population of West Dean is very awkwardly placed, seeing that the main works which formerly furnished employment for them are closed, some of them permanently so; and even in East Dean times have again become very depressing. Were it not for the exceptional instances named, the outlook would have been inexpressibly bad. Nor is there any reasonable prospect of a revival in the local coal trade before September or October.

The case against the chairman of the Iron and Steel Company, of Sewdley Furnaces, broke down. It had reference to some bills which had been drawn and placed in Newnham Bank by a gentleman of Ilfracombe. Being declared free of all blame by the magistrates, Mr. Morrison has since commenced an action against the party, laying his damages at 20,000*l.*, but it is hardly to be expected that any jury will award such an amount, and possibly the case may be compromised and not come before a court. The staging for the

last span of the Severn Bridge is up, and work is proceeding fairly, so that unless some mishap should occur to hinder, the bridge will be completed in August, and very soon afterwards opened for traffic. Quotations for coal and iron are still very low, excepting the coal sold to what is called the country trade, that is into carts and wagons for the surrounding country districts, to whom an extra charge of at least 2s. a ton is made, as compared to prices to merchants at the pits, which looks very like a tax upon the local public.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

June 25.—The new orders which have been placed since last report have not been large either as to pig or finished iron. The fortnight before the Quarterly Meetings is always a dull time, and these gatherings are fixed for July 9 and 10 in Wolverhampton and Birmingham. Manufacturers and consumers are now beginning their half-yearly stock-taking; they do not anticipate the outcome of the investigation with satisfaction. Steel bailing hoops have just commenced to be rolled in South Staffordshire, and they are meeting with an active sale at 8*l.* 10s. per ton delivered in London. Common iron bars range from 5*l.* 12s. 6d. up to 5*l.* 17s. 6d. and 6*l.* Earl Dudley's iron fetched 8*l.* 2s. 6d. Native pigs vary from 1*l.* 17s. 6d. for cinder sorts to 3*l.* 5s. for hot blast all-mine qualities. The coal trade is without alteration.

The Commissioners under the South Staffordshire Mines Drainage Acts announce that the Arbitrators have made a draft award for a mines drainage rate to be assessed and levied within the Bilston district, and that a joint meeting of Arbitrators and Commissioners will be held in Wolverhampton on July 5 to hear all objections. The rate is fixed at 4½d. per ton on ironstone, 3d. per ton on coal and slack, and 1½d. per ton on fire-clay and limestone. It is required to pay off debts incurred on behalf of the Bilston district before it exempted itself from the operations of the Act. The Commissioners, in accordance with an award of the Arbitrators dated May 29, have also levied a mines drainage rate in the Tipton district for the year ending June 19, 1880, to be paid in two half-yearly instalments. The rate is 3d. a ton on fire-clay and limestone, and 6d. on ironstone, coal, and slack. Under the Arbitrators' award, however, some few mines are exempted from payment; and as to a considerable number of the collieries, the rate has been reduced in their favour in seven different proportions, varying from one-twelfth down to five-sixths.

Proprietors of the Cannock and Huntington Colliery are reassured by the latest information touching the accident at their pits. M. Chaundron's engineers have made an inspection of the shaft, and they find that the sunken column of tubbing now stands only a few inches out of a vertical position. It is, therefore, believed that the raising of it will be practicable, but possibly a few of the bottom tubs may be discovered to have been damaged. There is no reason to conclude that any part of the shaft has fallen in, or that its sides have been in any way disturbed. The directors await the engineer's detailed plans for repairing the mishap, when the work will be at once begun. M. Chaudron is liable for the expense that will be incurred.

The Pelsall Coal and Iron Company sixth annual meeting was held in Birmingham on Friday. Mr. G. W. Hastings, Chairman of the board of directors, in moving the adoption of the report, congratulated the company on having been able to make a profit of upwards of 6000*l.* during a year of unexampled depression. The report was adopted. On a proposition being made to re-elect Mr. Boaz Bloomer, a retiring director, a poll was demanded, which resulted in the rejection of the motion, and the meeting was adjourned until July 11 to afford time for notice being given to fill up the vacancy.

Colliery owners in North Staffordshire report a slow demand, especially for household fuel. Current prices are exceptionally low, and manifest no tendency to strengthen. The makers of pig-iron have brought down the production to as near a level with the present restricted demand as is possible, still large unsold stocks are to be found about the district. Prices generally speaking are next to profitless; producers of standard brands mostly refuse to depart from open market quotations. Orders for finished iron are closely competed for, and few works have contracts of any magnitude under execution.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

June 26.—A good number of borough surveyors and other gentlemen interested in sanitary science assembled at Wrexham, last Saturday, for the purpose of witnessing the working of a new pump and general pneumatic sewage system, which has recently been devised by Mr. Isaac Shone, M.E., F.G.S., the Mayor of Wrexham. The pump was at work on the sewage farm of the town, and was employed in throwing crude sewage as it came from the town to a part of the farm 40 ft. higher than the sewer, and 90 yards distant from the pump. The pump consists of a cast-iron reservoir of nearly spherical shape—but it was stated that it could be made of any other shape—capable of holding 325 gallons. It was fixed with its upper portion, on which the mechanical arrangements are placed, just below the level of the discharging sewer. The sewage enters the reservoir from underneath, by means of a bent pipe of 6 in. diameter, and gradually rises within the reservoir until the latter is full, when a float properly fixed within, and which rises with the sewage, strikes and opens a valve through which rushes a supply of compressed air that forces the sewage through the outlet pipe of 5 in. diameter up to the desired elevation. Mr. Shone stated that with sufficient power the reservoir could be filled and discharged 30 times an hour. On Saturday the pump was worked by means of a 1½-horse power engine, with an air compressor attached, fixed 400 yards away. With a pressure of 27 lbs. of air to the inch the reservoir was emptied in four minutes, and with an increased pressure of 40 lbs. it was emptied in three minutes. It took ten minutes each time to refill. The inventor explained that the advantage of employing compressed air over steam consisted in the fact that in a flat district where sewage might require elevating from several pumping stations, one central engine and compressor would suffice to work the whole of the pumps. The pump would also be useful in districts where there are falls in opposite directions in concentrating sewage to a given point, and at coast towns in ejecting sewage far out to sea in all states of the tide. The pump has also a ventilating property, for as the reservoir refills the inflowing sewage ejects the air, which rushes along the pipes and so prevents the accumulation of sewage gas. The engineers present seemed well satisfied with the process and with the mechanical arrangements of the reservoir, which were simple and effective. The same process could, of course, be applied to the drainage of mines, but whether it would be cheaper or more effective than the old-fashioned Cornish pumping engine remains to be seen. Mr. Shone, who is a mining engineer, has opportunities of testing his invention in this capacity.

The plain sensible letter of Capt. John Roberts, of Llanrwst, in last week's Journal, on the Raising of Motive Power, deserves attention. He suggests another excellent way of overcoming the intermittent nature of wind power by the utilisation of its extra force for storing up compressed air. The letter of "Deutzer," too, shows the interest which this question of Wind Power is exciting, and it is satisfactory to know that thus far we have had placed before us several feasible ways of equalising its action. I hope Messrs. Watson will carry out their idea of erecting a windmill at their D'Eresby Mine, and adopt one or other of these methods, either alone or in combination.

I put my question in reference to Pant-y-Mwyn just as it had been put to me by a miner whom I met in the most accidental way, and both he, I, and the readers of the Journal should be obliged to them for their fair statement and explanation of last week. It is pleasant to correspond with old mining people who do not imagine animus lurking behind fair criticism and enquiry. Mr. Robert Knapp may rest assured that I am not the writer of the paragraph he alludes to, nor do I know the writer. Would it not be better to answer questions than to impute motives and call names?

Mr. Macgregor, the resident engineer of the Bettws-y-Coed and Festiniog Railway brought the first engine through the tunnel at the Festiniog end of the line last Friday. He was accompanied by several local gentlemen. This line, some of the works on which have been very heavy, is now approaching completion. It will take the slates of the district northward and to the Midlands by a shorter route than has been hitherto practicable. The directors of the Mid-Wales Railway are considering a project, the desirability of which I suggested some months back, that of amalgamation with the Cambrian with a view of making the lines a trunk line from Crewe to Merthyr Tydfil and Swansea. At present it takes a whole day to travel by this route what can be done by the Great Western or North-Western by circuitous routes in six hours. I would suggest, also, to the Cambrian and Manchester and Milford Railway Companies the desirability of cultivating a through traffic from the North to Carmarthen and the ports of Pembrokeshire. A little endeavour to serve the convenience of the public would certainly benefit themselves.

TRADE OF THE TYNE AND WEAR.

June 25.—The collieries here continue to be well employed, and are likely to be pretty fully at work during the present week, as the usual holidays observed by the miners during the Newcastle race week are not likely to receive much attention, owing to the fact that they were so badly employed during a great part of the present year. At the South Hetton Colliery the differences between the men and the masters have been adjusted, and the men are now at work. The arrivals of vessels in these rivers has been large during the past few days. The sailing ship W.H. Lawrence has arrived in the Tyne, and will load 4000 tons of coals at the Commissioner's spouts. The half-year now about closed has, on the whole, certainly not been a profitable one for the great staple trades of the district. Considerable shipments have, indeed, been made of steam and gas coal, iron, chemicals, &c., but prices have of course ruled low. Gas coal has been contracted for at from 6s. to 6s. 6d. per ton for the bulk, and 8s. to 8s. 3d. for steam coal. Of course in some cases slightly better rates have been paid, but those are the exception. The great strike in the Durham coal field enabled the mine-owners to clear away the large stocks held, and it also caused a considerable demand for Northumberland coals. Of late most of the works have been kept going regularly, the low rate of coal and coke having evidently attracted customers both foreign and coastwise. Iron shipbuilding in these rivers continue, on the whole, brisk, but generally engineers and founders are only moderately employed. At the great iron, engine, and shipbuilding works at Yarrow—Messrs. Palmer and Co.'s—there is great activity in all branches. A large number of vessels are being constructed, and orders are on hand for engines, &c., that will keep the works in full employment for months to come. Considerable numbers of men are still unemployed in the district, but the labour market is not so much glutted as it was a few months ago. Emigration to other districts and other countries is certainly producing a marked effect. Miners have less difficulty in meeting with employment than they had a short time ago, and, on the whole, the prospect for coal miners in the district has improved.

The Chemical Trade is very steady at present, with a fair business doing; on the whole, though there is little rise in prices they are firm, and the prospect of the trade continues to improve, although the rate of improvement is slow.

The Iron Trade continues in a very depressed state, and prices have again fallen to a very low point at Middlesborough. On Tuesday there was a good attendance, but the tone of business was very quiet. No. 3 pig-iron is quoted as low as 33s.; No. 4 forge in some instances at 31s. 6d. Little home enquiry, but some on Scotch account. Manufactured iron is no stronger. There have been hints in the Times this week of further complications in the North, but those rumours do not apply to Cleveland.

IRONWORKERS' WAGES IN THE NORTH.—The proceedings in the arbitration in the claim of the employers in the manufactured iron trade of the North of England for a reduction in the wages of certain classes of workmen are not likely to be brought to an issue for a month, in consequence of the absence of the umpire from England. Some of the figures which have been brought to light in the investigation are startling. It appears that while the owners of the works have been unable to realise any profit, but have actually suffered loss in working the mills, &c., and the wages of puddlers and others have been brought down to a very low ebb, the mill-rollers, shearers, and other classes have in some instances been receiving from 16s. to 20s. per day, after paying the labourers employed under them. It is these classes of men whose wages are now sought to be reduced, and it is expected that on the return of the umpire—Mr. Dale—the case will be ripe for his decision.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

June 26.—The Coal Trade just now is in anything but a healthy state in Derbyshire, for prices have come down to a point which admits of no profit whatever, but in not a few cases actual loss. Under such circumstances the colliery owners have sought for a reduction of wages, so that the loss should be more equally borne, but this many of the men are averse to, and prefer standing out. In some few instances the men have agreed to the reduction required by their employers, and so far all has been right. But at others the men have struck, preferring total idleness to making some little sacrifice, and are content to go begging for money and provisions instead of working. At Unstone the owners have taken a more decided step, for they have given notice to their hands that after the end of the present week their collieries will be closed. There will, consequently, next week be some hundreds of workmen entirely idle, so that a great deal of distress is likely to be the result, for the Association is powerless to support those who will be out, whilst there is very little chance of their obtaining employment at other places, seeing that short time is becoming general. The business doing with London in house coal has sensibly decreased, as is usual at this time, whilst prices have come down to a very low point, but this does not induce large customers to fill their cellars for winter consumption, so that the railway drops and sidings are pretty full, whilst there are plenty of loaded wagons to be seen near the different railway stations, and this is likely to continue, for colliery owners are in a fix to find markets for what they are raising, whilst they are content to keep going on so long as they are not serious losers. To Birmingham and the West business has also become quieter, so the railway companies are beginning to feel the decline in the traffic. Steam coal, which should now be active, has not materially improved, and shipments from the few ports to which Derbyshire coal is sent have been particularly moderate. In other qualities of coal, such as nuts, slack, and smudge, there is not much doing, although they are offered at prices at which the sellers must be losers. The make of pig is considerably below what it was at one time, a good many furnaces being out, still it is more than sufficient to meet the demand for it and the consumption on the spot. There has been no increase in the production of mill material, whilst at the foundries the limited number of men employed as a rule are kept fairly going on gas and water pipes, pillars, stoves, and ordinary castings. In the neighbourhood of Dronfield there is now a large number of iron and steel workers, and the locality seems to be better off than most others. In light malleable castings and those of an ornamental character, for which the place has a reputation a century old, a steady business has been done, whilst at Messrs. Wilson and Cammell's establishment—one of the largest there is engaged in making Bessemer steel—there has been a large production of rails of that material.

During the past seven or eight days several failures have taken place in Sheffield, and it is expected that others will follow, so that there is considerable uneasiness in mercantile and manufacturing circles, and which to some extent affects some branches of trade. In few departments has there been any improvement of late, whilst in some there has been a falling off. With respect to the new American tariff, it is said that one house doing a large business there in cutlery will transport their entire plant to the other side of the Atlantic along with the most skilful of the workmen, as the name in all probability would ensure the old trade. Several of the large establishments, it may be said, are scarcely so busy as they have been, and the demand for secondary qualities of general cutlery is still but moderate. The ordinary plate mills are running tolerably well, some fair orders being in hand for ship and boiler plates, whilst makers of Bessemer rails are still working well despite the cry out about the low prices at which contracts for home and foreign lines have to be taken. In other descriptions of railway materials, including tyres and axles, a steady business is being done. Steel plates for boilers and shipbuilders are now making their way, and more are being turned out than has previously been the case, as there is no doubt that they will be the most economical in the long run. Engineers and machinists are still quiet, but railway wagon builders are favourably off for work. At the foundries in some cases a little more is being done, principally in cooking ranges, stoves, palisadings, and fittings. In pig-iron the demand is quiet for ordinary brands, and prices low, so much so that at the meeting of William Cooke and Co. (Limited), of Tinsley, it was stated that there had been a loss on the year's working, which was put down to the furnaces solely. In South Yorkshire the coal trade is quiet, and at several places the men have received notice of reduction of wages consequent on the loss occasioned by keeping the collieries going. But this the men are slow to believe, and the leaders are endeavouring to obtain some consolation by calling attention to the carriage rates for coal going from the district by railway, and suggesting the formation of some new lines. But these are matters that have long since been well studied over by colliery owners, who know that they are powerless in the matter.

At Rotherham the large and well-known establishment of Messrs. Yates, Haywood, and Co., the Effingham Stove Grate Works, will in future be carried on by a limited company, the principal members of which are the family of Mr. Haywood, who retires, but so divides the concern.

The failure of Messrs. Askham Brothers, the Yorkshire Steel-works, Sheffield, with liabilities amounting to 18,000*l.*, has been announced. Mr. T. Barker, iron and steel merchant, of the same place, has also gone into liquidation, the liabilities being about 13,000*l.*

The affairs of Messrs. Beaumont, Brown, and Co., of the Wath and Milton Main Colliery, near Barnsley, are to be wound-up by voluntary liquidation.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

June 26.—Mr. Reed, M.P., chairman of the company, and other gentlemen, have inspected the Milford Dock Works. It is expected that the works are to be finished in about eight months. The first meeting of the National Bank of Wales has taken place at Manchester. Mr. F. Crawshay was in the chair. Branches have already been opened at Aberdare, Pontypridd, and Bridgend, and others will shortly be started. A further issue of shares is to be made; the whole of the first issue of 10,000 has been subscribed for. A sad accident has occurred at the Waun pit, Cwmavon, by which six men lost their lives. They were being let down to work by the cage when the rope broke and they were precipitated to the bottom and killed. The inquest has been opened and adjourned. The pit has hitherto been remarkably free from accident.

Both the Rhymney Iron Company's and the Ebbw Vale Company's reports have been presented during the past week. They are each instructive, though somewhat unsatisfactory (so far as shareholders are concerned) documents, for both show a heavy loss. In each case the present depression in trade is deplored. Besides this impediment in the way of a good balance-sheet, the Ebbw Vale Company have had to combat with the heavy loss entailed by the terrible explosion at Abercarn. The loss for the year is 42,548*l.*, the principal portion of which is caused by the depreciation in market value of the stocks held. The Rhymney Company's report shows a loss on the year ending March of over 35,000*l.*, but there are to some extent exceptional circumstances connected with the past year. The increasing favour with which steel rails have been regarded is noticed; and, in fact, while in 1877 the steel turned out was only 7757 tons, last year it was 32,315 tons, while the production of iron had decreased from 40,065 to 10,144 tons. These figures certainly present a striking contrast. The directors point out that steel rails have been sold at the low price of 4*l.* 7s. 6d. at the Welsh ports, and there has been a scarcity of orders for iron. The directors also express the hope that the trade in the United States may be reopened, and also that prices have reached their lowest.

The Iron Trade generally has shown no improvement. The demand is very poor for all descriptions; but although there is no rise prices do not seem to recede. It is to be hoped they have touched the bottom of the scale. The quantity of iron shipped during the last few days has been larger. Rails (iron) have, as usual, been very quiet; but steel rails have been in but moderate request. Yet another company is reported to be going in for the make of tin-plates; in this case the name of the Tredegar Company is mentioned. Bars are somewhat quiet, and pig-iron is the reverse of brisk. The tin-plate trade is about as active as usual, and presents a contrast to other branches of industry in the district. The demand is kept up quite to the recent average.

The accountants who were appointed to go through the books of the Associated Coalowners have made their report to the Sliding Scale Committee. The period embraced is for the four months ending April of this year. They find that the average net prices of "colliery screened large coal" delivered at the Welsh ports to be in group No. 1, steam coal, 8s. 5·16d. per ton; group No. 2, Mynyddislwyn and Tillery, 8s. 11·868d.; and No. 3, Rhondha, 8s. 3·21d. per ton. Other figures show that since the end of 1875 prices have fallen off more than 2s. per ton—in fact, have been gradually receding since then. The men seem a little more inclined to give way. They have met and decided to send a deputation to confer with the masters. The demand for steam coal has been good during the past week, and the foreign demand has been well kept up. Prices have not changed. There is a moderately good demand for house coal. Patent fuel is rather more active.

ELECTRIC LIGHTING.—According to the invention of Sir. H. W. TYLER, of Wyvenhoe Hall, Colchester, he employs for the purpose of electric lighting a substance such as carbon, platinum, or other material or combination of materials, which in offering a certain resistance to the passage of the electric current, however produced, becomes heated so as to give out heat or light, and these substances or combination of substances he encloses within another substance or combination of substances, constituting a casing of a refractory nature, such as German glass, rock crystal, glaze, fire-clay, or steatite, which shall either be sufficiently transparent to allow of the light of the incandescent charcoal or other substance passing through them, or shall themselves be rendered incandescent by the heat of the interior substance, and shall thus constitute the means of affording light. By such refractory outer casing the carbon or other material forming the conductor is prevented from burning away or being destroyed, while it allows of the passage of a continuous current, and facilitates the employment of a greater number of lights on one circuit than heretofore.

NEW LUBRICANT.—Mr. R. COCKSHOTT, of Bradford, proposes to add to about one gallon of water about 3 ozs. of Irish moss or of sea weed and 2 ozs. of Newcastle soda, more or less Irish moss or sea weed and soda being employed according to different requirements; this admixture he boils until boiled down, and then leaves it to cool, and when cooled he thoroughly strains and clears it. He then adds about one-third of a gallon of Gallipolli oil, by preference of the best quality, but he may use either rape, Malaga, or olive oil; after adding the oil he adds a suitable quantity of indigo blue to give a bleaching property; the ingredients are then thoroughly stirred, and become thoroughly incorporated. In some cases, and according to the requirements of the use to which the oil is to be put, before stirring he places the above-named ingredients, boiled and treated as hereinbefore described, in a pan, to which he adds a sufficient quantity of soap; the quantity of soap also varies with the use the oil or lubricant is intended for. He then boils the ingredients for

a suitable time, and when the boiling is finished he leaves the ingredients to cool, and when cooled he thoroughly stirs until the ingredients become thoroughly incorporated, and they will then form oils or mixtures especially adapted for the combing and carding of wool and wollens, and will produce better and brighter colours in dyed and stoved yarns than wools combed with ordinary oil, and render them firmer in spinning. The price of the oil is also greatly reduced. He remarks that the quantities of the ingredients forming a new or improved oil or lubricant may be altered and varied to suit the nature and quality of the materials to be operated upon.

FOREIGN MINING AND METALLURGY.

If several of the Belgian metallurgical establishments are fairly off for employment, the general aspect of the Belgian iron trade can scarcely be said to have changed. Most of the Belgian rolling mills are, indeed, struggling right and left for small orders. Prices exhibit little or no revival in affairs, being low and very variable. The Great Central Belgian Railway Company has decided on continuing its trials of iron sleepers, commenced 12 years since with Vautherin sleeper. The direction has ordered 10,000 iron sleepers of the type adopted recently on the Belgian State Railways. Three modes of attaching the rails to them will, however, be employed—that in use on the State lines, that in use on the Berg and Mark Railway, and that of M. de Greef, engineer of the Great Central Belgian system. The Great Central Belgian Railway Company used last year 7047 tons of rails for maintenance purposes; of the rails thus used only 675 tons were steel rails. Of the iron rails 5181 tons were new rails, and 1191 tons were re-employed rails. The average price of the steel rails used by the Great Central Belgian in 1878 was 9*l.* 8s. 9d. per ton; that of the new iron rails, 6*l.* 17s. 8d. per ton. Contracts have been let this week at Brussels for a quantity of switches and fish-plates for the Belgian State Railways.

The deliveries of coal in the Belgian basins have maintained about their usual importance during the past week. The iron trade is only consuming coal to a comparatively limited extent, and shows little disposition to enter into long-termed contracts. On the other hand, producers are not pushing on extraction operations with any great ardour, so that stocks have not accumulated to any very material extent. A contract has been let at Brussels for the delivery of about 90,000 tons of briquettes required for the Belgian navy. The tenders delivered ranged from 12s. 9d. to 13s. 3d. per ton.

In the French coal trade the dead season may be said to be now at its height. The movement of industrial coal is still proceeding upon about the same scale as for a month past. In the Nord and the Pas-de-Calais prices have continued to decline, producers prefering to sell at low prices and to reduce their stocks, as coal has always a slight tendency to deteriorate when warehoused. Further, the managers of coal mines in the North of France deem it advisable to keep their working staffs employed so as to hold them together. It is hoped that some improvement will be established in the autumn in the coal trade of the basin of the Loire.

Small orders have continued to come to hand in the French department of the Haute-Marne, and have maintained a fair amount of activity at the works. Coke-made iron has brought 6*l.* 8s. to 6*l.* 12s. per ton; mixed ditto, 7*l.* 4s. to 7*l.* 12s. per ton; and charcoal-made iron, 8*l.* 16s. to 9*l.* 4s. per ton. Sheets have been in rather less demand. As regards castings, there has been some demand for ornaments, but prices have remained depressed. In the Nord iron of commerce and plates have been rather easier; prices have remained without change. Merchants' iron has brought 6*l.* 12s. per ton, and plates have made 8*l.* 8s. to 8*l.* 12s. per ton. In the Loire-et-Rhone there has been a certain slackening during the past week in the demand for iron and plates.

Reference was made last week to a contract for 4000 tons of steel rails which had been let at Brussels for the Belgian State Railways. It appears that the 4000 tons are according to the terms of the contracts, to be paid for by 7000 tons of old rails, plus a balance. The balance offered by the John Cockerill Company was 1600*l.*, and that of the Angleur Steelworks Company 1320*l.* In other words, the John Cockerill Company offered to hand over 1600*l.* and 4000 tons of steel rails for 7000 tons of old rails. The Ougrée Ironworks have just received an important order for fine-grained tyres. The Angleur Steelworks Company has also obtained and important order for Bessemer steel tyres on Italian account.

It is not to be expected that during their struggle for the re-establishment of protective duties the German iron and steel companies would exaggerate the prosperity of their recent careers; and, moreover, many of them are still suffering from the errors of the joint-stock mania period. It would appear, however, from a series of extracts taken from the latest reports—those for last year of some of the largest establishments,—and opportunely published by the Frankfurter Zeitung, that the directors have been unable to conceal the constant improvement of the positions of these companies under a free-trade *regime* and during a very critical period in the history of the iron and steel industries, although the reports are all written from a protectionist standpoint. The report of the Dortmund Union, for instance, shows a profit on the year's working of the blast-furnaces of 9668*l.*, and though this is considered an unsatisfactory amount for interest and depreciation in relation to the large capital invested, yet the report admits that it is a healthy sign, because it is a direct result of "large expenditure in reconstruction and improvements undertaken since the financial year 1873-4." The balance-sheet for that year showed a loss of 21,121*l.*, which was reduced to 8149*l.* in the following year, and was changed into a small profit of 3071*l.* in the year 1875-6. The profit was increased to 4053*l.* in 1876 7, while, as stated above, the profit for last year was more than double this amount. The rolling works made a very important advance last year, the gross balance of profit being 75,276*l.*, while the preceding year showed a loss on this branch of 13,990*l.* The report of the Phœnix Joint-stock Mining and Furnace Works, situated at Lahr in the Ruhr district, is equally significant. Last year the quantity of iron manufactures turned out of the works was 120,473,212 kilos., valued at 691,901*l.*, against 87,069,157 kilos., valued at 588,458*l.* in the preceding year. The total for last year represented the largest quantity of finished manufactures ever sent from the works referred to, and the directors state that home and foreign competition compelled them to quote very low prices on the average, "but," they add, "this was not the less advantageous and healthy as regards the total operations, as it was only by increased production that a corresponding reduction of first costs could be effected." As regards pig-iron, it is specially stated that the outturn was greatly expanded, and by an increased working of each furnace the costs were reduced so considerably that all the smelting works showed a profit. The report of the Bochum Mining and Cast Steel Manufacturing Association declares no dividend, but states "with satisfaction" that "during the last three anxious years" a profit balance of 100 000*l.* has been earned, while the liabilities have been reduced 149,750*l.* It is further stated that, considering the very considerable appropriations to depreciation account hitherto, an annual dividend of from 2 to 3 per cent. on the share capital might now have been guaranteed from the profits, but for the present, and remembering the mistakes of three years ago, the directors have decided to strengthen the financial position of the concern.

There seems to be a prospect of the coal deposits in South Africa being utilised more extensively than hitherto. The Natal Mercury has great expectations from a discovery at Camdeboo, and urges the Government to pursue the investigation. In the Transvaal also coal is said to be very plentiful. The military correspondent of the Transvaal Argus, writing from the camp at Kambula, says that two companies had been sent out to the Langalibalele Hill, to the northward to obtain coal, and had succeeded in bringing back 60 sacks. A seam was discovered some time ago, and the coal is now used in the camp instead of wood.

CHEAP COAL.—The advent of fine weather has brought down the price of coal very considerably. The Cannock Chase deep coal has been reduced from 23s. to 21s. per ton, and at that price will be delivered in any part of London. This coal is by far the cheapest in the London market.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

HARVEY AND OTHERS VERSUS TREGAY.
IN RE PEDN-AN-DREA CONSOLIDATED AND SPARNON MINES.

TENDERS WILL BE RECEIVED by the Registrar of the said Court until Saturday, the 5th day of July next, for the PURCHASE, in One Lot, of all the unsold

MACHINERY, MATERIALS, UNDRESSED ORES, AND EFFECTS

Now being at, upon, and belonging to the said Mines, the whole of which may be inspected on application to HENRY JAMES LEAN, the Bailiff of the Court, now in possession of the same under the Decree made in the above suit; and any further information respecting the same may be obtained on personal application to the Registrar of the said Court, at his office in Truro, where also may be seen the conditions to which such Tenders will be subject.

By direction of the said Registrar,
RICHARD WHITFORD, Solicitor, Truro.

Dated Registrar's Office, Truro, 26th June, 1879.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the NEW PERRAN MINERALS COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their SEVERAL DEBTS or CLAIMS at the Registrar's Office, Truro, on Monday, the 7th day of July next, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof.

And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, the 26th day of June, 1879.

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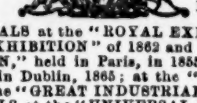

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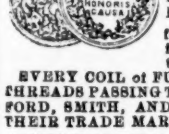

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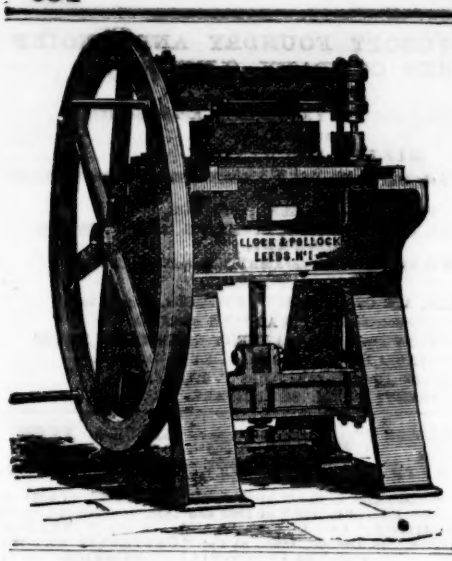

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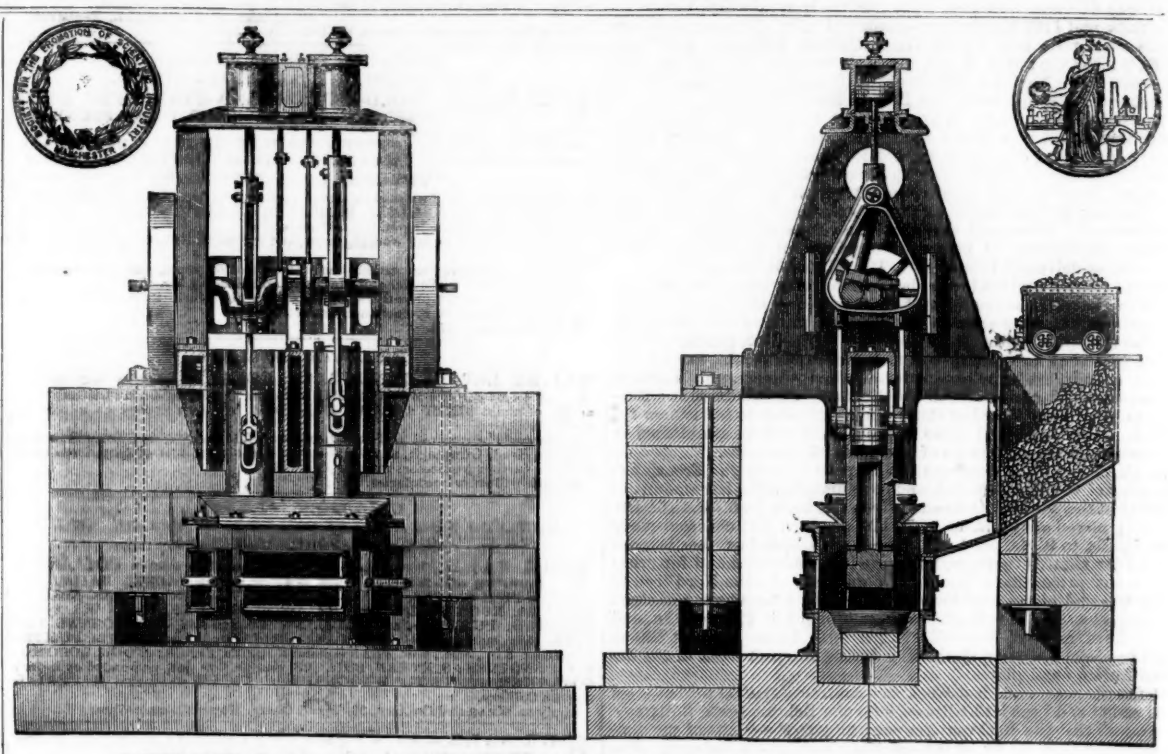

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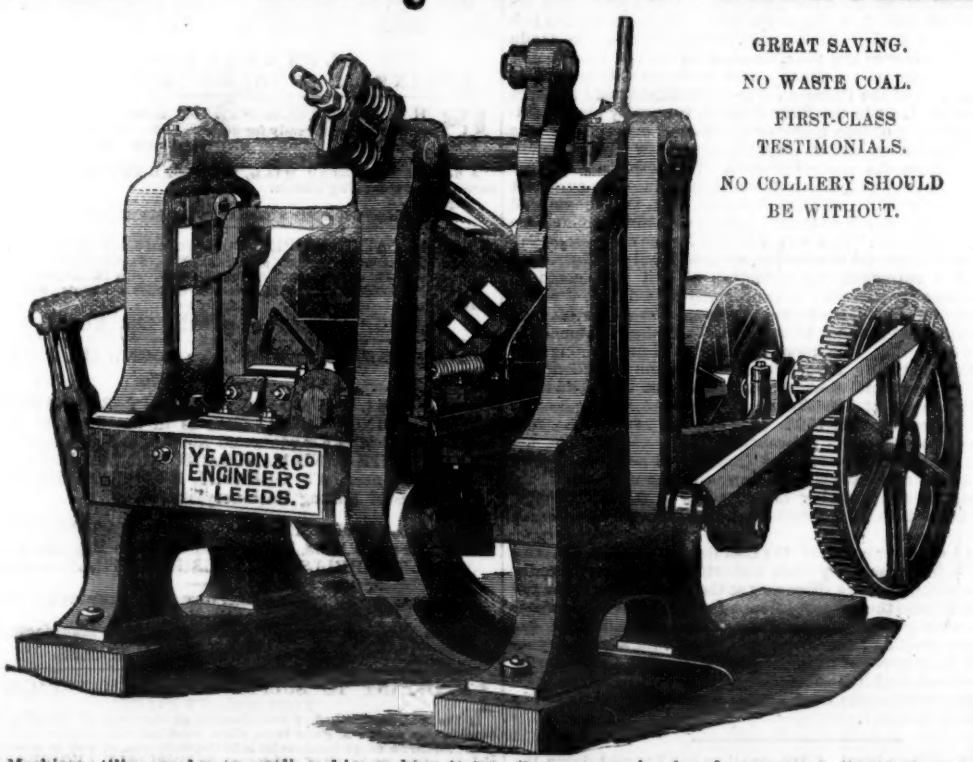

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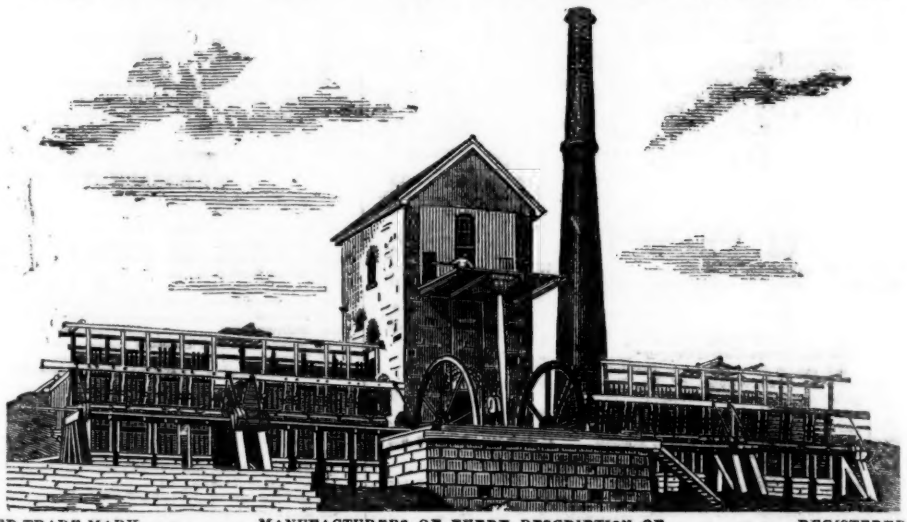

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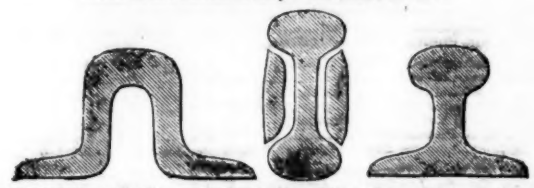

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos pr.	Total divs.	Per sh.	Last pd.
2000	Bryn Alyn,* *l*, Denbigh	10 0 0	... — ...		0 7 0	0 7 0	Jan. 1877
10000	Caron, *l*, Cardigan*	2 0 0	... 2½ ...	2 2¼	0 4 6	0 2 6	Oct. 1878
1000	Carn Brea, *c, t*, Illogan†§	56 7 8	... 27 ...	24 26	308 0 0	1 0 0	Feb. 1874
400	Cashwell, *l*, Cumberland*	2 10 0	... — ...		1 9 6	0 2 0	Aug. 1876
2450	Cook's Kitchen, *t*, Illogan†§	16 4 9	... 1¾ ...	1¾ 1¾	11 17 0	0 7 6	Jan. 1873
246	Devon Gt. Consols, *c*, Tavistock†*	1 0 0	... 2¾ ...	1¾ 2¼	116 15 0	0 5 0	July 1877
4296	Dolcoath, *c, t*, Camborne	10 14 10	... 27 ...	24 26	113 6 3	0 5 0	May 1879
5000	East Black Craig * *l*, Scotland	5 0 0	... — ...		0 10 0	0 10 0	Feb. 1877
300	East Darren,* *l*, Cardiganshire	32 0 0	... — ...		235 10 0	1 0 0	Aug. 1876
6400	East Pool, *t, c*, Illogan	0 9 9	... 9¾ ...	8¼ 9	16 0 3	0 4 0	Apr. 1879
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s p.]		... ¾ ...	½ ¾	0 13 10	0 0 6	Aug. 1878
8500	Gorsedd & Merllyn Cons., *l*, Flint	2 10 0	... 3 ...	2¼ 3	0 5 0	0 5 0	Aug. 1877
15000	Great Laxey *l*, Isle of Man*	4 0 0	... 16 ...	15 16	24 15 0	0 5 0	Apr. 1879
615	Gt. Retallack, *l, bi*, Perranzabuloe	5 18 8	... — ...		0 1 6	0 1 6	May 1876
6400	Green Hurth, *l*, Durham*	0 6 0	... — ...	¼ ¼	2 2 0	0 3 0	Mar. 1878
20000	Grogwinion, Cardigan*	2 0 0	... 3 ...	2½ 3	0 14 10	0 0 10	Aug. 1878
9880	Gunnislake (Clitters), *t, c*	5 5 0	... 1¾ ...	1¾ 1¾	0 13 9	0 1 0	Oct. 1876
2800	Isle of Man, *l*, Isle of Man*†	25 0 0	... — ...		82 5 0	0 10 0	Feb. 1879
20000	Leadhills,* *l*, Lanarkshire	2 10 0	... 2 ...	1¾ 2	0 15 0	0 3 0	Mar. 1878
400	Lisburne,* *l*, Cardiganshire	16 15 0	... 35 ...	30 35	597 10 0	1 0 0	Mar. 1879
9000	Marke Valley, *c*, Linkinhorne	5 3 6	... ¾ ...	½ ⅝	7 18 0	0 2 0	Jan. 1876
10000	Mellanear Copper, Hayle*	2 0 0	... 3¾ ...	3¼ 4	0 8 0	0 3 0	Feb. 1879
9000	Minera Mining Co., *l*, Wrexham*	5 0 0	... 10¾ ...	9¾ 10¼	68 1 8	0 2 0	May 1879
20000	Mining Co. of Ireland, *ci, c, l**	7 0 0	... — ...		23 17 6	0 2 6	Jan. 1878
1024	North Busy, *c*, Chacewater	1 14 0	... — ...		1 0 0	0 5 0	Oct. 1878
10259	North Hendre, *l*, Wales	2 10 0	... 6¼ ...	6 6¼	2 17 6	0 5 0	Apr. 1879
10000	Panty Mwyn,* *l*, Mold (8794 iss.)	2 0 0	... 3 ...	2½ 3	0 3 0	0 2 0	Aug. 1877
5000	Pounalls, *t*, St. Agnes	3 17 6	... 1¾ ...	1¾ 1¾	3 13 6	0 2 0	July 1875
6000	Pennant, *l, bar*, North Wales*	5 0 0	... 4½ ...	4 4½	0 10 0	0 5 0	Mar. 1878
45793	Penstruthal,* *t, c*, Gwennap	2 0 0	... 3s. ...	⅛ ¼	8	0 0 8	Nov. 1875
[illegible]	Prince Patrick,* *s-l*, Holywell §	1 0 0	... 1 ...	¾ 1	0 14 0	0 1 3	Jan. 1876
12000	Ditto, pref. (3000 issued)	0 10 0	... — ...		0 1 0	0 1 0	Mar. 1879
10000	Red Rock,* *l*, Cardigan	2 0 0	... 2¼ ...	1¾ 2¼	0 4 0	0 2 0	Jan. 1878
12000	Roman Gravels, *l*, Salop*	7 10 0	... 8¼ ...	8¼ 8½	8 5 0	0 5 0	May 1879
512	South Caradon, *c*, St. Cleer	1 5 0	... 55 ...	50 55	744 10 0	1 0 0	Nov. 1878
6123	South Condurrow, *t, c*, Camborne	5 5 8	... 12 ...	11½ 12	5 7 0	0 10 0	Apr. 1879
12800	St. Harmon,* *l*, Montgom	2 0 0	... 2 ...	1 2	0 12 0	0 3 0	July 1878
4500	South Wh. Frances, *t*, Illogan†	7 12 4	... 9 ...	8 8½	38 4 6	0 12 6	Apr. 1879
12000	Tankerville, *l*, Salop*	6 0 0	... 2¼ ...	2¼ 3	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, *c, t*, Pool, Illogan†§	11 10 0	... 9¼ ...	8 9	50 8 6	0 5 0	May 1877
15000	Van, *l*, Llanidloes*	4 5 0	... 18 ...	16½ 17¼	23 16 6	0 5 0	Apr. 1879
3000	W. Chiverton, *l*, Perranzabuloe†§	17 5 0	... 4 ...	2¾ 3	55 10 0	0 10 0	Feb. 1878
1783	West Poldice, St. Day§	11 0 0	... — ...		1 19 0	0 4 0	July 1876
512	West Tolgus, *c*, Redruth	98 10 0	... 25 ...	20 22½	33 0 0	1 0 0	Jan. 1879
2048	West Wheal Frances, *t*, Illogan§	29 6 3	... 5¼ ...	4½ 5	3 12 6	0 5 0	Oct. 1872
600	West Wh. Seton, *c*, Camborne†§	49 0 0	... 15 ...	11 13	446 0 0	0 15 0	Apr. 1876
12000	West WyeValley,* *l*, Montgom	3 0 0	... 1¾ ...	1 1½	0 12 0	0 3 0	Nov. 1877
1024	Wh. Eliza Consols *t*, St. Austell	18 0 0	... — ...		19 10 9	1 10 0	Aug. 1878
2048	Wheal Jane, *t*, Kes§	5 18 10	... 1½ ...	1¼ 1½	8 5 0	0 5 0	July 1876
4296	Wheal Kitty, *t*, St. Agnes	5 4 6	... ¾ ...	¾ ⅞	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, *t*, St. Just§	175 15 0	... — ...		522 10 0	4 0 0	Aug. 1872
3808	Wheal Peevor, *t*, Redruth	7 11 9	... 10 ...	9¼ 9¾	1 2 6	0 7 6	Mar. 1879
6400	Wheal Prussia, *t*, Redruth	0 5 0	... — ...		0 4 0	0 1 0	July 1877
10000	Wye Valley, *l*, Montgomery*	3 0 0	... 1½ ...	1¼ 1¾	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

35500	Alamillos, *l*, Spain*†	3 0 0	... 1¾ ...	¾ 1¾	1 19 9	0 0 6	Oct. 1878
80000	Almada and Tirito Consol., s*†	1 0 0	... ½ ...	⅜ ⅝	0 6 3	0 1 0	May 1876
20000	Australian, *c*, South Australia†	7 7 6	... 1¾ ...	1¼ 1¾	1 1 6	0 2 0	July 1878
16000	Battle Mountain,* *c*, (6240 part pd.)	5 0 0	... — ...		0 10 0	0 10 0	Nov. 1879
15000	Birdseye Creek, *g*, California*	4 0 0	... ⅜ ...	⅜ ⅜	0 14 0	0 2 6	June 1874
20000	Cape Copper Mining,*† So. Africa	7 0 0	... 28½ ...	27 28 xd	33 15 6	0 12 6	June 1879
34433	Cedar Creek, *g*, California*	5 0 0	... — ...		0 5 0	0 2 6	June 1873
35000	Cesena Sul. Co., Romanga, Italy*	10 0 0	... — ...		0 13 0	0 2 0	Aug. 1878
15000	Chicago, *s*, Utah*	10 0 0	... ⅜ ...	⅜ ⅜	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, *s-l*, Colorado*†	5 0 0	... 1¾ ...	1½ 1¾	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, *c*, Chili* (£20 shares)	16 15 0	... — ...		7 11 5	0 3 0	May 1877
100000	Don Pedro North del Rey*†	1 0 0	... 1 ...	¾ 1	2 5 9	0 2 0	Mar. 1879
38500	Eberhardt & Aurora, *s*, Nevada*†	10 0 0	... 3½ ...	3 3½	1 8 0	0 3 0	Dec. 1877
70000	English & Australian, c† S. Aust.	2 10 0	... 1¾ ...	1½ 1¾	2 16 9	0 1 0	Mar. 1878
30000	Flagstaff, *s*, Utah*	10 0 0	... ⅜ ...	⅜ ⅜	4 2 0	0 5 0	July 1873
35000	Fortuna, *l*, Spain*†	2 0 0	... 4 ...	3½ 4	7 4 11	0 1 0	Apr. 1879
55000	Frontino & Bolivia, *g*, New Gran.*†	3 0 0	... 2¾ ...	2 2¾	0 2 6	0 1 0	Feb. 1879
30000	Gold Run, *Ayd.*	1 0 0	... — ...		0 2 4	0 0 4	Oct. 1872
100000	Hercules and Roe, *s*, Colo., fy. pd.	2 0 0	... — ...		2 8 0	0 2 0	Jan. 1876
68000	Kapunda Mining Co. Australia†	1 5 0	... — ...		2 2 0	0 0 6	June 1873
20000	Last Chance, *s*,* Utah	5 0 0	... — ...		0 14 0	0 2 0	July 1873
15000	Linares, *l*, Spain*†	3 0 0	... 4 ...	3½ 4	17 12 10	0 2 6	Apr. 1879
65000	London and California, *g*†*	3 0 0	... ¾ ...	⅛ ¾	0 1 0	0 1 0	July 1875
5000	Mamm. Copperopolis of Utah, *c, s*	10 0 0	... — ...		0 5 0	0 5 0	Dec. 1873
5000	Mountain Chief, *s*, Utah*	10 0 0	... — ...		0 5 0	0 5 0	Dec. 1873
10000	Pontgibaud, *s-l*, France†	20 0 0	... 20 ...	18 20	27 6 9	0 7 6	June 1879
100000	Port Phillip, *g*, Clunes*† (£2 sh.)	1 0 0	... ½ ...	⅛ ⅜	1 12 9	0 1 0	Mar. 1879
54000	Richmond Consols, *s*, Nevada*†	5 0 0	... 8½ ...	8 8½	7 1 6	0 10 0	Feb. 1879
40000	Santa Barbara,* *g*, Brazil	0 10 0	... 2½ ...	1¾ 2½	0 7 3	0 1 6	May 1879
130000	Scottish Australian Mining Co.*†	1 0 0	... 2 ...	1¾ 2	15 per cent.		Nov. 1878
80000	Scottish Austral. Mining Co., New	0 10 0	... 1 ...	¾ 1	15 per cent.		Nov. 1878
22500	Sierra Buttes, *g*, California*†	3 0 0	... 2½ ...	1½ 1¾	2 5 9	0 2 0	Mar. 1879
40625	S. B. Plumas Eureka	2 0 0	... 2¾ ...	2½ 2¾	2 1 0	0 3 0	Oct. 1878
£253000	St. John del Rey*† (£5 stock & multiples dealt in)		... 260 ...	250 260	½ year.	15 p. ct.	for Dec. 1878
20000	Tolima, *g, s*" So. America	5 0 0	... — ...		0 11 6	0 6 6	May 1874
25000	Victoria (London)*, *g*, Australia	1 0 0	... ⅛ ...	⅜ ⅛	0 13 1½	0 0 7½	June 1879
15000	Western Andes, *s*,* New Granada	5 0 0	... — ...		0 12 9	0 2 9	July 1876
31000	W. Prussian (5500 pref. sh. 10*l*. pd)	10 0 0	... 10½ ...	10 10¾	1 10 9	0 4 0	Jan. 1879

NON-DIVIDEND MINES.

Acres.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
1 3000	Argentine, *g*, Argentine Republic	5 0 0	—		...Fully pd
80000	Blue Tent, *Ayd.*, California	5 0 0	—		...Fully pd
10000	Buena Ventura,* *l*, Llano de las Infantas, Spain (£2 sh.)	9 10 0	2¾ ...	2 2¾	...Fully pd.
15000	Canada,* *g*, Canada	1 0 0	—		...Mar. 1879
49935	Chontales, *g, s*, Nicaragua*†	2 0 0	—		...Fully pd.
75000	Colombian Hydraulic, *g*, Colombia	1 0 0	3s.	1s. 3s.	...Fully pd.
16000	Condes of Chili, *s-l*	5 0 0	—		...Fully pd.
20000	English Australian, *g*, Victoria*	1 0 0	—		...Fully pd.
35300	Excelsior Hydraulic Gold Washing Co., California*	5 0 0	—		...Fully pd.
1 0000	Exchequer, *g, s*, California*†	1 0 0	—		...Dec. 1871
100000	Frontenac,* *l*, Ontario Canada	1 0 0	¾ ...	⅝ ¾	...Fully pd.
40000	Holcombe Valley, *g*,* California	1 0 0	—		...Fully pd.
10000	Hornachos,* *s-l*, Spain	10 0 0	—		...Fully pd.
12000	Hultafall,* *l, bi*, Orebro, Sweden	5 0 0	—		...Fully pd.
12000	Hunter Consolidated, *s-l*, Utah	10 0 0	2 ...	1¾ 1¾	...Fully pd.
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—		...Fully pd.
7500	Isabelle, *g, s*", California (£20 shares)	5 0 0	—		...Fully pd.
100000	I. X. L., *g, s*, California*	1 0 0	—		...Oct. 1878
50000	Javali, *g*, Nicaragua*	2 0 0	... 5s. 6d.	¾ .. 5s. 6d.	...Fully pd.
3500	La Manche, *l*, Newfoundland	10 0 0	—		...Fully pd.
7587	Lusitanian, Portugal*† (£5 sh.)	4 15 0	—		Last call, May 1879
12000	Menzenberg, *c*, Honnef, Germany*	5 0 0	—		...Fully pd.
9000	Missouri Lead Mining & Smelting,* U.S., pref. (10*l*. sh.)	4 0 0	4½ ...	4½ 5	...Allotment
4588	New Bensberg, *s, i*, Germany	5 0 0	—		...Nov. 1876
66000	New Quebrada, *c*, Venezuela*	5 0 0	2½ ...	1¾ 2½	...Fully pd.
20000	New Zealand Kapanga, *g*, Coromandel*	5 0 0	—		...Fully pd.
100000	Nouveau Monde, *g*, Venezuela (Société en commandite)	1 0 0	½ ...	⅜ ½	...Fully pd.
3000	Oregon,* *g*, Oregon, U.S. (preference shares	4 0 0	—		...Fully pd.
50000	Panuelillo, *c*, Chili*† (£50000 debentures	4 0 0	1¼ ...	1 1¼	...Fully pd.
20000	Pitanqui,* *g*, Brazil (incl. 6000 sh. £1 fully paid)	3 0 0	¾ ...	½ ¾	...Fully pd.
25000	Placerville,* *g g*, California	0 8 6	½ ...	⅜ ½	...April 1879
50000	Providencia and New Rosario, *s*, Mexico*	2 0 0	2¼ ...	2¼ 2¼	...Fully pd.
40000	Ravenscliff, *g*, New Zealand; *c*, South Australia	1 0 0	—		...Fully pd.
£2,181,000	Rio Tinto,* *c*, Huelva, Spain	0 5 0	¼ ...		...July 1878
100000	Rossa Grande, *g*, Brazil*† (£1 shares)	Stock	74 ...	72 74	...Fully pd.
30040	Russia Copper, Orenburg and Ufa*†	1 0 0	3s. ...	1s. 3s.	...Fully pd.
32000	Sentein,* *s-l, bl*, Ariège, France	10 0 0	—		...Fully pd.
10000	Silver Plume, *s*, Colorado*	1 0 0	—		...Fully pd.
80000	Tecoma, *s*, Utah*	1 0 0	—		...Fully pd.
43174	United Mexican, *s*, Mexico*†	10 0 0	⅝ ...		...Fully pd.
14000	Utah, *g, s-l*, Utah*	29 2 9	3½ ...	3¼ 3¾	...May 1878
50000	Virneberg, *c* Rheinbreitbach, Germany*	5 0 0	—		...Fully pd.
75000	Yorke Peninsula, *s*, South Australia	2 0 0	—		...Fully pd.
84000	Yorke Peninsula, *s*, South Australia Preference	1 0 0	4s. ...	2s. 4s.	...Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices	
Argentine, 1868 6 per cent.	77	78
Bolivia, 6 per cent. Bond Com. Cert.	38	39
Brazilian, 1865, 5 per cent.	91	93
Chilian, 1866, 7 per cent.	78	80
City of Providence, 5 p.c. coupon bnds	104	106
Egyptian, Gov. preference	73¾	73¾
Do., unified debt, scrip	49½	50
Do., 7 per cent., V.M.L.	78	80
Do. 9 per cent. guar.	78	80
Do., L. Daira Sanieh	58	59
Foreign and Col. Gov. Trust, 5 p. ct.	70	75
Do., 5 per cent., 2d issue	50	54
Do., 6 per cent., 3d issue	69	70
Do., 1872, 4th issue	65	69
Do., 1873, 5th issue	65	69
Peruvian, 1870, 6 per cent.	12	12½
Do., 1872, 5 per cent	10	10½
Russian, 5½ per cent. L. Mor.	—	—
Spanish, Quicksilver Mort., 5 p. ct.	101	103
United States Mort., 6 per cent.	104	106

b, blende; *ci*, coal; *c*, copper; *g*, gold; *i*, lead; *s*, silver; *si*, slate; *s-l*, silver-lead; *t*, tin; *z*, zinc.

* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

NON-DIVIDEND MINES.

Acres.		Paid.	Last wk.	Clos. pr
40000	Aberdaunant, *l*, Llanidloes*	1 0 0	...	
2560	Aberllyn,* *l, bl*, Carnarvon	10 0 0	12 ...	10 11
10000	Aberystwith,* *s-l*, Cardigan	5 0 0	— ...	
80	Albion, *i*, Cornwall	100 0 0	— ...	
12000	Assheton, *l*, Carnarvonshire*	5 0 0	1 ...	¾ 1
50000	Ballycummisk,* *c*, Schull	2 0 0	— ...	
12000	Bedford Unit.,* *c*, Tavist. (1*l*. liab.)	0 1 0	⅜ ...	¼ ⅜
12000	Bell Vean, *t, c*, Gwennap	2 0 0	2 ...	1½ 2
30000	Bettws y-Coed,* *l* (20,000 issued)	1 0 0	1 ...	¾ 1
8000	Blaen Caelan,* *l*, Cardigan	3 0 0	3¼ ...	2¾ 3
3937	Blue Hills, *t, c*, St. Agnes	4 6 6	¾ ...	⅝ ¾
30000	Bodidris,* *l, bi*, Denbighshire	1 0 0	1½ ...	1¼ 1½
1000	Bollihope Vale,* *s-l*, Durham	5 0 0	— ...	
200	Botallack, *t, c*, St. Just]	123 15 0	17½ ...	12 13
2000	Bowden Hill,* *ma*	1 0 0	...	
6000	Bradwell Moss Rake	1 0 0	1 ...	⅜ 1
10 00	British,* *s-l*, Wrexham	2 0 0	3 ...	1½ 2
256	Browngelly, *c*, St. Neot	0 10 0	1¼ ...	1 1¼
12000	Bwich United,* *l* (1*l*. sh.) Cardigan	0 12 6	1½ ...	1¼ 1⅜
50000	Cambrian,* *s-l, c*, Cardiganshire	2 0 0	2¼ ...	1¾ 2
20000	Central Foxdale, *i*, I. of Man*(2*l*. sh.)	1 5 0	— ...	
10000	Central Van,* *l, bi*, Llanidloes	5 0 0	— ...	
5120	Clementina, *l*, Llanrwst*	1 0 0	1¾ ...	1 1¼
25000	Coed Mawr Pool,* *l*, Carnarvon	2 0 0	— ...	
7500	Combellack,* *t*, Wendron	2 0 0	— ...	
6000	Combmartin, *s-l*, North Devon	0 7 0	¼ ...	⅛ ¼
6400	Crookburn,* *l*, Cumberland	0 5 0	⅜ ...	¼ ⅜
140 0	Crosswood Mining Lands, *l*.*	1 0 0	1½ ...	1 1½
15000	Cwm Brwyno,* *l*, Cardigan	2 0 0	2¼ ...	1½ 1¾
15000	Cwm Dwyfor,* *c, s-l*, Wales	1 0 0	— ...	
5000	Ditto, 12½ per cent. pref.	1 0 0	— ...	
3000	Cwmystwith* (New), *l*, Cardiganshi	5 0 0	— ...	
1180	D'Eresby Cons., *l, bl*, Carnarvon	10 0 0	8 ...	6 8
1024	D'Eresby Mountain, *l, bl*, Llanrwst	20 0 0	35 ...	30 35
20000	Denbighshire Consolidated, *l**	3 0 0	1½ ...	1¼ 1¾
12000	Derwent,* *l*, Durham	4 0 0	¾ ...	½ ¾
10000	Dubby Syke, *l*, Durham*	0 15 0	4s. ...	4s.
6144	East Cardaon, *c*, St. Cleer]	3 2 0	⅛ ...	¾ ⅞
4000	East Chiverton, *s*, Perranzabuloe	7 12 6	1¼ ...	1 1¼
3000	East Craven Moor*, *l*, Pateley Bdge	10 0 0	10 ...	6 7
800 0	East Goginan, *l*, Cardigan	2 0 0	— ...	
30000	East Roman Gravels,* *l*, Salop	1 0 0	— ...	
18000	East Van, *s*, Llanidloes*	5 0 0	1½ ...	1 1½
1792	East Wh. Lovell, *t*, Helston	9 16 0	1 ...	1 1¼
20000	Elgar,* *s-l*, Cardiganshire	1 0 0	— ...	
12800	Frongoch, *l*, Cardigan (11000 issued)	2 0 0	2¼ ...	1¾ 2
10000	Frosterley,* *l*, Durham	1 0 0	— ...	
3950	Gawton, *c*, Tavistock	4 9 6	¾ ...	⅛ ¾
12000	Glan Clwyd,* *l*, Gwyddelwern	1 0 0	— ...	
14000	Glenroy,* *s-l*, Isle of Man	4 5 0	⅛ ...	⅛ ⅛
12000	Goginan, & Lvl. Newydd, *s-l*, Card.*	2 10 0	— ...	
20000	Goren,* *s-l*, Carmarthen	1 0 0	1 ...	¾ 1
20000	Great Dyliffe*, *s-l*., Montgomery	1 0 0	1½ ...	1 1⅛
20000	Gt. E. Foxdale, *i*, I. of Man (1*l*. sh)	0 18 0	— ...	
12000	Great Holway,* *l*, Flintshire	5 0 0	5 ...	4¼ 5
9500	Great Pant-y-Pydew, *i*, Holywell	2 0 0	— ...	
8000	Gt. Wheal Eleanor, *t*, North Bovey	1 17 6	⅜ ...	⅜ ⅜
10000	Gwern-y-Mynydd*, *s-l*, Flintshire	5 0 0	4¼ ...	4 4¼
10000	Harehope Gill,* *c*, Durham (£1 sh.)	0 5 0	— ...	
1200	Hartington Moor,* *carb. l*, Derby	1 0 0	2 ...	1½ 2
6400	Harwood,* *l*, Durham	0 15 0	1s. 6d. ...	1s. 6d.
3000	Herodsfoot, *l*, near Liskeard	1 0 0	3½ ...	2½ 3
18000	Hingston Down, *c*, Calstock*†	0 6 0	¾ ...	⅛ ¾
6000	Hush Eisteddfod Minera,* *l*	2 0 0	— ...	
2500	Killaloe, *si*, Tipperary]	1 0 0	— ...	
6000	Killifreth, *t*, Chacewater	2 12 6	1½ ...	1¼ 1½
25000	Kingston Con., *s-l*, Stoke Climsland. Ditto, preference	1 0 0	— ...	
12000	Ladywell,* *l*, Salop	2 10 0	¾ ...	⅛ ¾
12000	Ditto, 10 per cent. pref., 1*l*. each	0 10 0	⅜ ...	⅜ ⅜
8000	Lead Era,* *l*, Mold	2 10 0	3½ ...	2⅞ 3⅛
2800	Levant, *t, c*, St. Just]	10 14 6	— ...	
6000	Livingstone Consols, *t*, St. Agnes	6 10 0	⅛ ...	⅛
10000	Lomax, *s-l*, Perranzabuloe	1 0 0	1¼ ...	1 1¼
5 20	Lovell, *t*, Wendron	0 16 0	2 ...	1 1¼
25000	Llanrhaiadr, *l*, Montgomery*	2 0 0	— ...	
30000	Llanrwst,* *l*, Carnarvon	2 0 0	2 ...	1 2
1800	Mawston,* *l*, South Wales	1 0 0	2 ...	1½ 2
6000	Medlyn Moor, *t*, Wendron	2 9 10	— ...	
1 000	Melyndwr, *l*, Cardigan*	3 0 0	1¼ ...	¾ 1¼
7000	Mid Devon Copper*	0 6 8	— ...	
2000	Ditto	0 2 6	— ...	
8000	Mineral Corp. of Great Britain*	10 0 0	11 ...	10 11
11000	Monydd Gorddu, *l*, Cardigan*(Red.)	5 0 0	5 ...	3 5
12000	Morfa Du, *z, g, s*, Anglesea*	1 0 0	1 ...	¾ 1
25000	Nant-y-Ronen, *s-l*, Cardigan*	1 0 0	— ...	
15000	Nascent Copper*	1 0 0	— ...	
4768	New Bronfloyd,* *l*, Cardigan (5*l*. sh.)	3 16 0	3 ...	2½ 3
8000	New Dolcoath, *t, c*, Camborne*	3 0 0	1¾ ...	1½ 1¾
20000	New East Foxdale, *s-l*, Isle of Man.	0 15 0	— ...	
1492	New Hendra, *t*, Breage	3 9 0	— ...	
350	New Tincroft,* *t*, Lelant	6 0 0	3 ...	2½ 3
4000	North Cornwall,* *l*, Cornwall	5 0 0	5½ ...	5 5½
10000	No. D'Eresby Mount.,* *l, bl*, Carnarv.	1 0 0	¾ ...	1 1¼
30000	North Laxey,* Isle of Man	1 0 0	4s. ...	2s. 4s.
2000	North Levant, *t, c*, St. Just]	12 16 0	¾ ...	⅝ ¾
50000	North Molton, *c, mn, i*, Devon	1 0 0	1 ...	1
5936	North Treskerby, *c*, St. Agnes	8 17 10	— ...	
6400	Oola Hills,* *s-l*, Limerick	5 0 0	— ...	
12000	Pandora,* *i*, Carnarvon	2 0 0	⅝ ...	⅜ ⅝
6000	Park Valley,* *s-l*, North Devon	0 4 0	¼ ...	⅛ ¼
6000	Parracombe, *s l*, Devon	0 5 0	⅛ ...	⅛
16923	Parys Corporation,* *c*, Anglesea	3 0 0	⅝ ...	½ ⅝
12000	Pen-yr-Orsedd,* *l*, Flintshire	1 0 0	1¼ ...	1 1¼
12000	Phœnix, & W. Phœnix, *t, c*, Link, §	5 10 3	2½ ...	3 3½
4000	Pateley Bridge, *l*, Yorkshire	5 0 0	⅝ ...	½ ⅝
7000	Picton,* *s-l*, Holywell, fully paid	1 0 0	⅜ ...	⅜ ⅜
80	Plass Ddu, Llanarmon,* *l*	5 0 0	10 ...	
6000	Plympton Mining and Arsenic*	1 0 0	1¼ ...	1 1¼
12000	Plynlimmon, *l*, Llanidloes*	2 0 0	6s. ...	4s. 6s.
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	⅛ ...	¾ ⅛
2000	Prideaux Wood, *t*, Llanivery	5 0 0	— ...	
5182	Prince of Wales, *s*, Calstock]	2 8 0	6d. ...	6d.
6000	Relistian Consols, *c*, Gwinear	0 16 0	¾ ...	⅝ ¾
5000	Rhydalun,* *l*, Mold	10 0 0	9 ...	8 9
15000	Rookhope, *i*, Durham*	1 10 0	¾ ...	⅝ ¾
4200	Snowbrook, *s-l*, Montgomery	5 0 0	— ...	
6300	So. Cwmystwith, *l*, Cardiganshire.	2 0 0	2 ...	1 2
9 000	South Darren, *l*, Cardigan*	1 10 0	1½ ...	1 1¼
30000	South de Eresby Mountain,	1 0 0	— ...	
6000	So. Devon United Copper*	5 0 0	6 ...	
512	South Dolcoath, *c, t*, Redruth	12 5 0	— ...	
5000	So. Molton Cons., *s-l*, No. Devon	0 3 6	— ...	
18000	South Roman Gravels, *l**	1 10 0	3s. ...	1s. 3s.
8000	South Roskear, *t, c*, Camborne	8 5 0	— ...	
8000	South Tolcarne, *t, c*, Camborne	2 8 0	¾ ...	⅛ ¾
937	South Wheal Crofty, *c*, Illogan	45 10 10	6½ ...	6 6½
12000	Steddfa,* *l*, Cardigan	1 0 0	1¼ ...	
8000	St. Lawrence, Amal., *i*, Flintshire*	2 0 0	— ...	
10000	St. Patrick, *l*, Halkin, Holywell*	1 0 0	1¾ ...	1 1¾
8000	Success, &c., *l*, Derb.(12,000*l*. called)	1 0 0	— ...	
18000	Sunnyside,* *i*, Durham	2 0 0	— ...	